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ABSTRACT

This comprehensive document studies poverty in the U.S. and develops a set of recommendations for dealing with the problems. It examines poverty from the perspectives of both the national economy and local areas. It considers circumstances in both labor and consumer markets and looks at public and private activities, at revenue and spending decisions, at earned and unearned income and at population groups and problem areas. Chapters are devoted to the following areas: (1) poverty concepts and measures, (2) revision of poverty standards over time, (3) poverty and the national economy, (4) problems and progress in a growing economy, (5) racial differences in the mobility of males, (6) restructuring income maintenance, (7) issues in income maintenance and social insurance, and aspects of urban development. It is concluded that the long prospects for poverty reduction are very optimistic. Both the natural course of the economy and deliberate public efforts have had and can continue to have a substantial impact. The problems which remain, however, will be the ones that do not respond readily to economic growth and with which public policy has not yet been effectively able to deal. (Author/AM)

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FINAL DRAFT

Poverty and Public Policy

IRVING LEVESON

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HI-2307-RR

July 14, 1975

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FINAL DRAFT

POVERTY AND PUBLIC POLICY

By
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HI-2307-RR

July 14, 1975

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PREFACE

The objective of this study was to take a comprehensive look at poverty in the United States and to develop a set of recommendations for dealing with the problem. No single problem definition appeared to be unique in its ability to point to important areas for policy consideration. The poor were influenced by developments in all parts of society, some occurring independently and others because of the way in which they were expected to affect the poor. It was therefore appropriate to consider many developments and ask how each affects the poor. At the same time it was necessary to look closely at the poor to see what their problems were and what kinds of solutions might benefit them.

The study which evolved examines poverty from the perspectives of both the national economy and local areas. It considers circumstances in both labor and consumer markets. It looks at public and private activities, at revenue and spending decisions, and earned and unearned income and at population groups and problem areas. No attempt is made at completeness. The study seeks to highlight major developments and policies which are among those which merit serious consideration in efforts to set priorities and make decisions.

The study was carried out in full recognition of the level of detail necessary to transform broad recommendations into effective policies and the difficulties in achieving successful implementation. This was part of the rationale for focusing on the most fundamental and powerful forces whose impacts could be expected to lead to the greatest amount of change.

This study has benefitted greatly from discussions with Herman Kahn, Director of the Hudson Institute, Jane Newitt, Director of the study for the Office of Economic Opportunity and from various Hudson Institute staff members, especially Frank Armbruster, Daniel Watts and Doris Yokelson. Discussions and comments of Samuel Hazlitt, Sidney Leveson and Molly Orshansky were most valuable. Esther Adam and Audrey Tobin did an outstanding job in providing research assistance and Maureen Pritchard, Anne Marsek and others provided typing services above and beyond the call of duty.

I wish to express special thanks to the U.S. Office of Economic Opportunity for funding the kind of study that could deal without constraint with the many dimensions of the problem.

Irving Leveson

TABLE OF CONTENTS

CHAPTER I

FINDINGS AND RECOMMENDATIONS I-1

CHAPTER II

POVERTY CONCEPTS AND MEASURES II-1
Some Previous Suggestions II-1
The Need for Improved Concepts and Measures II-3
Construction of a Social Index II-7
Relationships Between Income and Other Social Indicators II-11
The Production of Well-Being II-15

CHAPTER III

REVISION OF POVERTY STANDARDS OVER TIME III-1
Introduction III-1
Revision of Standards III-3
Comparison of Poverty Lines III-8
Implications of an Elastic Poverty Line for the Poverty Income Gap III-12
A Further Application III-20
Interpretation of the Income Elasticity of the Poverty Line III-23
Differing Attitudes Toward "Deserving" and "Undeserving" Poor III-23
The Distribution of Gains from General Sources of Economic Growth III-27

Appendix - A

Computation of Semi-Relative Poverty Lines A-1

CHAPTER IV

POVERTY AND THE NATIONAL ECONOMY IV-1
Introduction IV-1
Evidence on Poverty and Economic Conditions IV-2
Secular Changes IV-2
The Impact of Economic Growth IV-12
Cyclical Patterns - The Great Depression IV-14
Cyclical Patterns After World War II IV-17
Inflation Effects IV-19
Combined Effects IV-21
Program Benefits IV-22
Gaps in Research IV-23
Further Evidence and Policy Discussion IV-24
Economic Growth IV-24
Inflation IV-31
Business Fluctuations IV-36
Improving Economic Stabilization Policy IV-40

Appendix - A

Statistical Analysis A-1

CHAPTER V
PROBLEMS AND PROGRESS IN A GROWING ECONOMY V-1

Part 1 - Patterns of Unemployment, Labor Force Participation, Education and Occupation of Black Males
Unemployment, Labor Force Participation and Education V-3
Occupational Changes V-13

Part 2 - Further Analysis of Population Groups
Female Headed Households V-19
Unwanted Births V-28
Spanish-Americans V-32
Farm and Rural Nonfarm Populations V-38

Part 3 - The Ghetto and the Economy V-43
The Ghetto as a Residual V-43
Returns to Education of Ghetto Residents V-45
The Dual Labor Market Hypothesis V-51
Ghetto Trends V-55

Appendix - A
Some Conceptual Issues Relating to Discrimination, Productivity and the Occupational Distribution of Black Male Employment A-1

Appendix - B
The Effects of Discrimination Aversion B-1

Appendix - C
The Ghetto From the Perspective of the Underdeveloped Nation Model C-1

CHAPTER VI
RACIAL DIFFERENCES IN OCCUPATIONAL MOBILITY OF MALES VI-1
Introduction VI-1
Relationships Among Mobility Rates VI-3
Extensions to Include Other Variables VI-12
Discussion VI-22

Appendix - A A-1

CHAPTER VII
RESTRUCTURING INCOME MAINTENANCE VII-1
Introduction VII-1
The Extent of Poverty and Underemployment VII-3
Work Incentives and Income Guarantees VII-8
The Effects of Introducing Work Incentives on Employment VII-14
Evidence on Effects of Increased Labor Supply VII-14
Minimum Wage Effects VII-16

Supplementing Earnings VII-19
Incentives to Acquire Skills VII-24
Incentives Toward Family Dissolution VII-25
A Proposal VII-26

Appendix - A

Work Incentive Effects. A-1

CHAPTER VIII

FURTHER ISSUES IN INCOME MAINTENANCE AND SOCIAL INSURANCE VIII-1
Policies Toward Unemployment VIII-1
Unemployment Insurance. VIII-1
Public Service Employment VIII-8
Pension Issues VIII-13
Social Security VIII-13
Private Pensions. VIII-14
The Distribution of Economic Progress. VIII-17

CHAPTER IX

ASPECTS OF URBAN DEVELOPMENT. IX-1
The Position of the Central Cities IX-1
Opening the Suburbs. IX-6
The Future of the Central Cities IX-13

Tables

Table 1 - Orshansky Index by Demographic Category, 1973. . . . . III-4
" 2 - Relationship of Gallup Minimum Income to Median Income and Other Variables, Available Years, 1947-1973. . . . . III-7
" 3 - Orshansky Poverty Line for a Nonfarm Family of Four, By Income Elasticity of the Poverty Line, 1947-1973. . . . . III-9
" 4 - Elastic Poverty Lines. III-11
" 5 - Poverty Income Gap by Income Elasticity of the Poverty Line, By Family Status, 1947, 1960 and 1973 . . . . III-13
" 6 - Orshansky Poverty Line for a Nonfarm Family of Four for Alternative Rates of Income Growth, by Income Elasticity of the Poverty Line, 1980 and 1985. . . . . III-15
" 7 - Poverty Income Gap in 1980 and 1985 for Alternative Rates of Income Growth, by Family Status, Income Elasticity of the Poverty Line Zero III-16
" 8 - Poverty Income Gap in 1980 and 1985 for Alternative Rates of Income Growth, by Family Status, Income Elasticity of the Poverty Line .6 . . . . . . III-17

Tables (contd.)

Table 9 - Percent of Poverty Income Gap in Families, by Income Elasticity of the Poverty Line, 1947-1985 . . III-18
" 10 - Average Monthly Payments Per Recipient Under Five Categories of Public Assistance, 1940-1969 . . . . . III-26
" 11 - Percentage Distributions of Growth Rates of Potential National Income Per Person Potentially Employed, According to Source of Growth, 1929-1969. . . . . III-28
" A - Exact Values of Growth of Semi-Relative Poverty Lines. A-2

Table 1 - Percent of Family Personal Income Received By Consumer Units with the Lowest Fifth of Income, 1929-1971. . . . . IV-4
" 2 - Family Personal Income of Lowest Fifth of Consumer Units by Type of Consumer Unit, 1964 and 1971. IV-6
" 3 - Social Welfare Expenditures Under Public Programs as a Percent of Gross National Product, by Type of Expenditure, Fiscal Years 1949-1973. . . . . IV-7
" 4 - Percentage Change in Selected Variables for a One Percent Increase in Median Family Income IV-25
" A-1 - Dependent Variables. A-2
" A-2 - Independent Variables. A-6
" A-3 - Relationship of Percentages of Families and Individuals in Poverty and of the Mean Income of the Poorest Fifth of Families to Median Family Income and Other Variables, 1948-1973 . . . . A-7
" A-4 - Relationship of AFDC and Unemployment Insurance Benefit Levels and the Minimum Wage to Median Family Income and Other Variables. A-9
" A-5 - Relationship of Social Welfare Expenditures as a Percent of Gross National Product to Median Family Income and Other Variables and Relationship of the Mean Income of the Poorest Fifth of Families to Social Welfare Expenditures, 1948-1973 . A-10

Table 1 - Full Year Labor Force Participation and Employment Rates of Nonwhite Males Age 25-64, 1960-1973 . . . . V-4
" 2 - Labor Force Participation Rate of Males by Race and Education, March 1973. . . . . V-6
" 3 - Unemployment Rate of Males by Race and Education, March 1973 . . . . V-7
" 4 - Labor Force Participation Rate of Male High School Graduates by Race and Age, March 1973 . . . . V-9
" 5 - Unemployment Rate of High School Graduates Race and Age, March 1973 . . . . V-10
" 6 - Percent Change in Employment in Selected Occupations by Race and Sex, 1965-1973 . . . . V-14

SEP 1 8 1977

Tables (contd.)

Table 7 - Labor Force Participation and Work Experience of Family Heads by Poverty Status, Sex and Race, 1972 . . . . V-24
'' 8 - Proportion of Women in the Labor Force by Age of Youngest Child, 1970. . . . . V-26
'' 9 - Ethnic Differences in Blue Collar Employment of Present or Last Job by Length of Residence, Both Sexes, East and South Central Los Angeles, July 1968-June 1969. . . . . V-33
'' 10 - Median Years of School Completed by Age, by Race, New York City, 1973. . . . . V-35
'' 11 - Educational and Racial Differences in Median Hourly Earnings of Full-Time Wage and Salary Workers, New York City Poverty Areas, 1969 . . . . . V-46
'' 12 - Educational and Racial Differences in Mean Income of 35-44 Year Old Males with Income, New York Standard Metropolitan Statistical Area, 1969 . . . . V-48
'' 13 - Racial Differences in Median Earnings of Males in the Experienced Civilian Labor Force Working 50 to 52 Weeks, by Nonfarm Occupation New York Standard Metropolitan Statistical Area, 1969 . . . . V-49
'' 14 - Changes in 50 Selected Poverty Neighborhoods, 1960-1970. . . . . V-56
'' 15 - Average Annual Rates of Growth of Real Median Income of Families and Individuals in 50 Poverty Neighborhoods and in the U.S., 1959-1969 . . . . . . V-57

Table 1 - Mobility Coefficients. VI-7
'' 2 - Mobility Coefficients for Minorities with White Geographic Distribution. VI-10
'' 3 - Expanded Equations for Black Net Mobility. VI-13
'' 4 - Expanded Equations for Black Net Mobility, Interactive Form VI-21
'' A-1 - Measures of Mobility Into Craftsmen From Other Blue Collar and Service Occupations, Males, By Race, By State, 1965-1970. . . . . A-1
'' A-2 - Measures of Mobility Into White Collar From Other Occupations, Males, By Race, By State, 1965-1970. . . . . A-5
'' A-3 - Correlation Matrix for Craftsmen A-9
'' A-4 - Correlation Matrix for White Collar. A-10

Table 1 - Money Income Transfers by Income Decile, 1970. . . . . VII-4
'' 2 - Number of Poor Families and Persons Living in Poor Families According to Standard Definition, By Type of Family, 1971. . . . . VII-5
'' 3 - Percentage of Family Heads and Unrelated Individuals Age 22-64 Between 100 and 150 Percent of the Standard Low Income Level Working One Half Year or Less, By Sex and Race, 1972 . . . . VII-7

Tables (contd.)

Table 4 - Payment Schedule for an "Incentive Maintenance Plan," Intact Family of Four, 1976 Incomes and Dollars. . . VII-28
" 5 - Cumulative Marginal Tax Rates for an Intact Family of Four Under the Incentive Maintenance Plan VII-31
" 6 - Estimated Numbers of Nonaged Low Income Families and Individuals in 1976. . . . . VII-33
" 7 - Cost and Coverage of Illustrative Incentive Maintenance Plan, 1976 . . . . VII-34
" A - Average Monthly Public Assistance Payment Per Recipient, December, 1968. . . . . A-6

Table 1 - Expenditures Under Extended and Supplemental Unemployment Benefits Program, 1958-1973 . . . . . .VIII-3
" 2 - Cumulative Distribution of Unemployment Insurance Beneficiaries and Benefits, 1967 . . . . .VIII-4
" 3 - Distribution of Unemployed by Age and Reason for Unemployment, 1973 . . . . .VIII-6

Table 1 - Differences in Median Family Income Between Core and Fringe Counties of Greater Metropolitan Areas, 1959-1969 . . . . IX-2
" 2 - Percentage Change in Population Between April 1, 1970 and July 1, 1973 for Principle Cities of the Twenty Largest Standard Metropolitan Statistical Areas. IX-19

Figures

Figure 1 - II-12

Figure 1 - Ratio of Selected Program Benefit Levels to Poverty Line with Income Elasticity 0, 1947-1974 . . III-21
" 2 - Ratio of Selected Program Benefit Levels to Poverty Line with Income Elasticity .6, 1947-1974. . III-22

Figure 1 - Relationship Between Percentage Change in Median Earnings from 1959 to 1969 and 1959 Level of Earnings Across Selected Occupations, Male Workers in the Experienced Civilian Labor Force who Worked 50-52 Weeks IV-9
" 2 - The Changing Shape of the Distribution of Income . . . IV-10

Figure 1 - Relationship of Relative Education of Black and White Males and Relative Occupation Status V-16
" B-1 - Discrimination Aversion Function B-3
" B-2 - Market for J_1. . . . . B-4

Figure 1 - VII-17
" 2 - Effects of An Earnings Supplement VII-21
" 3 - Criticisms of the Welfare System VII-27
" A-1 - A-2

Figure 1 - Alternative Futures for Older Cities IX-17

FINDINGS AND RECOMMENDATIONS

The focus on poverty arises out of concern with both poverty and inequality. The fundamental interest is not in low income *per se* but on the level of well-being defined in terms of health, comfort, safety, etc. Low-income populations would show an even lower level of well-being relative to moderate income groups in a Social index derived from social indicators which reflect more basic wants. Increasing well-being, however, depends not on income alone but also on the efficiency with which resources are used and on life styles. The incomes of the poor and the conditions which determine the productivity of those incomes in improving well-being depend on both policies and developments in the larger society and on features of those policies which are targeted to the problems of poverty.

Poverty has generally been defined in terms of income because of the convenience of easily measured criteria. The standard adopted by the Federal government in 1960 established a reasonable level based on an attempt at a national concensus. However, the poverty standard has not been updated to take into account the growth of real income since that time. For this purpose it is neither appropriate to consider poverty absolute nor to raise the poverty line by the full percentage increase in real income. The Gallup Poll data on public views of minimum income implicitly indicates that poverty standards rise 60-70 percent as fast as real median family income. On the basis of this and other tests it is recommended that the poverty line be raised by 60 percent of the percentage growth of real median income in addition to adjustment for inflation.

Raising the poverty line 60 percent as fast as real income results in a poverty line for a nonfarm family of four in 1973 of $5,623 instead of $4,540. The poverty income gap--the difference between the income of all families and individuals in poverty and the income if all were at the poverty line--is $12.6 billion dollars instead of $4.0 billion.* By this criterion the percentage of persons in poverty continues to decline as income grows but much more slowly than with an absolute poverty line. When the poverty line is raised at 60 percent of the rate of real income growth, the poverty income gap (in constant dollars) remains at the 1960 level in 1973 and will not fall between 1973 and 1985 in spite of economic growth.

As the economy has grown the distribution of income has reduced the extent of poverty not only by rising upward proportionally but also by becoming more equal over time. Movements toward greater equality were particularly pronounced during the first half of the century when extensive increases in education and movement from farms to cities occurred. Thereafter, equalization was much smaller and more dependent on the growth of social spending by government. Between 1947 and 1973 a one percent increase in income of all families was associated with a 1-1/4 percent increase in income from all sources for the poorest fifth of families and a 1.1 percent increase in the share of GNP going for social welfare expenditures.

In the future efforts to stimulate the growth of the economy will depend less on general stimulants such as investment tax credits and accelerated depreciation allowances and more on the specific policies which are adopted to deal with problems in the areas of energy, environment, and transportation and residential development. Goals such as replacement of environmentally obsolete plants, expansion of water and sewer facilities and electrical generating capacity, energy exploration and development of mass transportation can potentially create a large capital boom, but conflicts about goals, overregulation and localism can slow growth instead.

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*Eight billion was subtracted from each figure to reflect transfers not counted in the Current Population Survey.

The population shifts among regions of the country will significantly change the location of employment opportunities. In the future it will be necessary for manpower programs to provide information, training and other services to individuals in one location to prepare them for jobs in another. Manpower Revenue Sharing with its local focus will not by itself provide adequate services of an interregional nature.

Inflation had no appreciable effect on the shape of the overall distribution of income between 1947 and 1973. Some population groups can be identified who are more likely to be hurt than others and cost of living increases can be made more automatic in these cases. However, through 1973 there was no evidence that the poor lost from inflation by failure of benefits under social programs to keep pace with inflation. The 10 percent decline in real terms of AFDC benefits between 1969 and 1973 appears to have been a response not to inflation but to the rapid rise of benefits in the 1960s. Historically, AFDC benefits have shown a tendency toward a constant ratio to a poverty line calculated to rise 60 percent as fast as real income.

The broad problem of inflation can be analyzed usefully when inflation is seen acting like a lottery in which many persons gain and lose in unpredictable ways. The lottery of inflation both increases risk and results in real losses for many individuals. The poor may also be hurt disproportionately when effects on well-being rather than income are considered because of a lesser ability to adjust to changing prices and conditions.

Black families have participated about equally with whites in the growth of real income. However, there has been little catchup when temporary gains during periods of unusual prosperity are excluded, and the large inequality between black and white incomes has continued. Black females in the labor force have had very rapid gains in incomes reaching near equality with whites. A number of developments suggest that black males will experience sizeable improvements in their relative economic position in the coming decades. Labor force attachment increased in the mid 1960s. The gap in earnings between blacks and whites is no longer greater at higher education levels. Rapid occupational gains occurred in the last decade, continuing even after the unusual prosperity of the late 1960s waned. Young blacks have shown very rapid progress in educational attainment.

In spite of these changes the gains of black males have been quite modest. Examination of age patterns in labor force participation and unemployment suggests that discrimination operates not only to lower the level of occupation and earnings eventually attained but also to provide a 7-10 year delay in the time until that level is reached. The very rapid size of the gains in education which occurred in the 1960s implies that extensive improvements in occupation and earnings will occur in the next decade as black males with greater education move into the 25-34 year old age group. Gains will continue to occur as more educated blacks replace less educated ones in the labor force. Substantial inequality will persist for a long time , however, because of the effects of both past and present discrimination. The importance of discrimination is demonstrated in the statistical analysis of occupational mobility.

The rapid growth in the number of female-headed households has been an important factor in the extent of poverty. Part of the increase is attributed to the effects of the welfare system which enables a man and woman to receive higher income by remaining apart. Recent evidence has also shown that the rapid growth of income of black females compared to black males is also a contributing factor. As a result future gains by black males can be expected to increase the incentive for families to remain intact. Welfare reform is critical to further improve the incentive for family cohesion.

Making the income of a male available is likely to be much more effective in raising the incomes of female-headed households than policies to increase the labor force participation of female household heads. Child-rearing is itself an important use of the mother's time. Prospects for earning additional income are limited because of the effect of presence of children on labor force participation and the low education of female household heads. Efficient policies are not available to raise labor force participation greatly. A socially acceptable day care program costs nearly as much as most welfare mothers are likely to earn.

Until recently one of the most important causes of poverty was unwanted births. Unwanted births have been a major factor in the formation of female-headed households, in lowering the per capita income of low income families and in the disproportionately large numbers of children in poverty. The rapid decline in the birth rate since the late 1950s greatly reduced the importance of this problem. However, very high fertility rates are still prevalent among Southern rural blacks, Spanish-Americans, American Indians and rural farm families. In the long run, further gains can be expected through improvements in technology. There is a continuing need to make present methods of birth control easily available for use on a voluntary basis.

Urban Spanish-American families have shown very rapid assimilation. Extensive gains are apparent in education and occupation. Impressive gains can be expected in the future as assimilation progresses further.

The problem of poverty outside urban areas continues to be substantial. On farms the focus is shifting from independent farm operators to farm laborers. Migratory farm workers and farm hands have not gained from increases in the prices of farm products and can be expected to experience large reductions in employment from increases in minimum wages and unionization. Future rural problems will increasingly be concentrated among persons who no longer live on farms but are unwilling to migrate.

The problems of depressed coal mining areas will be partially alleviated by changes in energy demand. These areas would gain most from emphasis on energy independence and underground rather than strip mining.

Opportunities for ghetto residents to increase incomes are substantially greater than suggested by comparisons among ghetto residents in the 1960s. Improved data show that advances in earnings with education and occupation are larger than suggested earlier. Furthermore, since persons who advance are more likely to leave ghetto areas, data on residents only understates the amount of success. Available evidence does not support the "dual labor market hypothesis" which claims that the poor are locked into low wage jobs. The statistical analysis of occupational mobility also failed to show any such effect.

The older ghetto areas have shown substantial population declines but the boundaries of ghettos have spread. Real incomes of residents of older ghettos, while rising much less rapidly than the rest of the population, appear to have increased and housing conditions to have improved.

The present system of public assistance is seriously deficient in discouraging work, encouraging family dissolution and in permitting other inefficiencies and inequities. To deal with many of these problems an Incentive Maintenance Plan was developed. The Incentive Maintenance Plan provides a basic guarantee, but that guarantee is set only at $3,000 for a family of four in 1976. The guarantee is not so close to market earn-earnings levels as to be attractive and it makes the beneficiary responsible for obtaining some earnings to reach the poverty line income level. The basic payment is coupled with an earnings supplement which adds to income earned and offsets adverse incentives created by the guarantee. The earnings supplement is considered part of the minimum wage in order to encourage employers to provide employment. As earnings rise the guarantee payment is reduced.

Female headed families are eligible for both the guarantee and the earnings supplement. Husband-wife families with or without children are eligible for the earnings supplement and become eligible for the guarantee if the family head works at least 3,000 hours in the preceding 3 years. Unrelated individuals are eligible for a supplement but not a guarantee. The structure of benefits is designed to provide strong work incentives relative to the present welfare system, to provide incentives for family members to remain together and to protect against fluctuations in income.

The gross cost of the Incentive Maintenance Plan would be $23.0 billion, covering 42 million persons. It would replace the present system of Aid to Families with Dependent Children, General Assistance, Food Stamps and a small part of unemployment insurance. The net cost would be equal to $8.8 billion in 1976. This is slightly less than the poverty income gap of non-aged households calculated from a poverty line which rises 60 percent as fast as income.

Increasing the supply of unskilled workers through creation of work incentives is insufficient unless accompanied by efforts to raise demand. In addition to the Incentive Maintenance Plan, selective use of tax credits is recommended to compensate employers for the special costs of providing jobs for the hard to employ. Public service employment is recommended only on a very limited basis as a long run tool for dealing with relatively small numbers of persons who present special difficulties.

A number of policy alternatives have developed for dealing with the problems of unemployment and income loss over shorter periods of time. The use of tax cuts has been limited by unwillingness to increase the size of the Federal budget deficit. Unemployment insurance tax collections have not kept pace with the economy because the earnings below which a tax is paid has not risen sufficiently with economic growth and inflation and certain new benefits have not been funded at all. Full funding of these programs is recommended to avoid compounding the resistance to tax cuts. Further stabilization can be achieved if the tax collection rate for unemployment insurance is varied counter to the business cycle. In addition, more automatic tax cuts are needed to avoid a regular drag on economic growth as inflation and rising incomes increase the share of income which is taxed in the progressive personal income tax structure.

The social costs of inflation and unemployment present a difficult choice as to the amount of stimulus which should be provided. However, clear priorities can be developed as to the kind of stimulus when it is agreed that one is required. The use of tax cuts is recommended over further extensions of unemployment insurance or public service employment. Unemployment insurance benefits now provide substantial protection which cannot be increased without significant problems of work incentive effects. The Food Stamps program has added to the disincentives under unemployment insurance. Food Stamps would not be available to unemployment insurance recipients under the Incentive Maintenance Plan.

Public service employment presents a number of problems. While it provides a greater level of income replacement than unemployment insurance, it is twice as costly. While this cost may be counterbalanced by productive work, there is doubt as to how productive public service employment can be when mounted on a large scale. When this occurs employees tend not to be placed and supervised individually, but become part of large cadres which are likely to work less or produce less useful products. Furthermore, programs which are valuable as temporary measures may continue long after they are needed.

A number of pension issues were examined. It is recommended that over the long run the Social Security program move toward greater funding of benefits. Subsidies to low income individuals should be obtained from general tax revenues but included with earned benefits in a single payment. Private employer pensions still leave half of employees uncovered and additional extensions of benefits appear warranted. Private pension plans provide little protection against inflation. To deal with this investment in a wider range of financial instruments is recommended.

The growth in real income in the economy has come about because of increases in output per worker. More than 60 percent of those gains have been the result of general sources of productivity growth--primarily economies of scale and technological change. These general sources of growth are not payments to any one factor of production. In an economy in which prices fall at the same rate productivity increased, gains from improved efficiency of production would be distributed in the form of price reductions available to all. Instead they are distributed in the form of rising real wages which accrue only at certain points in the life cycle to those able to work.

Workers who have already retired and persons receiving income maintenance cannot benefit from general sources of productivity gains unless that income is transferred from the rest of society. A progress-sharing policy is recommended in which Social Security benefits of already retired workers and benefits under income maintenance programs would be increased to distribute gains 60 percent as fast as the rate of growth of real per capita income.* The same criterion would be applied to the income level up to which Social Security taxes are paid to finance those benefits. This is a slower rate of increase than has occurred in recent years when benefit levels were still being established.

Income maintenance benefits would be increased in the same manner. Over the years increasing income guarantees by 60 percent of the rise in incomes would be expected to generate progressively increasing work incentives. The minimum income level below which no taxes are paid would also be income-indexed according to the 60 percent progress-sharing rule.

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*In the case of Social Security the principle upon which benefits are calculated rather than the benefits themselves would be raised by this rate.

The similarity between the response of the poverty line to income growth and the share of growth attributable to general sources lead to the speculation that public preferences are already modified over time implicitly based on a sharing consideration rather than a concept of need.

The evolution of the cities creates some special problems not handled in the course of policy development along other lines. The racial composition of the cities is changing rapidly. This produces opportunities for minorities to locate in a wider geographic area, exerting greater choice, avoiding the effects of segregation on housing costs and increasing the ability for additional housing to trickle down to the poor. But it also accentuates the differences between central cities and suburbs. There is an increasing concentration of problems in the older and larger cities. The gap in income between central cities and suburbs is rising. The costs of services in the cities are increasing as problems grow while the tax base rises more slowly than in the suburbs.

There is no convincing proof that blacks would benefit significantly from increased opportunities to locate in suburban areas. The occupational analysis further does not support the view that the structure of cities has an adverse effect on the opportunities of black males. Blacks were found to have a lower tendency to go into white collar jobs than blue collar but also a lower tendency to leave them, with no net difference in the outlook for employment. This refutes the contention that the growth of white collar jobs in the cities is less able to benefit black males than the growth of blue collar jobs in the suburbs.

A policy of open communities is desirable not because of any large gains in income, school performance, etc. which can be demonstrated but because of the exercise of free choice. However, land use regulations are not expected to become more open very quickly.

A powerful set of forces can be expected to operate to reduce the density of the older, larger cities. Lower density can be expected as facilities which come due for replacement adjust to the greater availability of the automobile, because of environmental pressures, the growth of suburban mass transit, changes in technology which affect the location of business and the press of social problems in the cities. These far outweigh the effects of higher energy costs.

Substantial declines in population occurred in the principal cities of the largest Standard Metropolitan Statistical Areas between 1970 and 1973. These changes are seen as the beginning of a process of density reduction. The population decline implies a greatly reduced need for physical solutions. However, it means that the coordination of financial assistance with the restructuring of facilities and services will become more critical. Cities with declining populations will bear additional burdens in trying to deal with pressing problems.

For the most part the long run prospects for poverty reduction are very optimistic. Both the natural course of the economy and deliberate public efforts have had and can continue to have a substantial impact. The problems which do remain, however, will be the ones that do not respond readily to economic growth and with which public policy has not yet been effectively able to deal.

POVERTY CONCEPTS AND MEASURES*

Poverty has been frequently defined and measured as low income. There are obvious conveniences to this procedure and it will be followed throughout a good part of this study. But there is also a widespread recognition that income is seriously deficient as a measure of poverty. One approach to incorporating more extensive factors is to measure poverty based on a set of social indicators. Possibilities along these lines are explored.

Some Previous Suggestions

There have been a number of suggestions of ways of supplementing income so that it would continue to provide a single overall measure of well being. These include proposals to formally incorporate information on assets into a combined measure,** as the National Income Accounts already do by imputing rent to owner-occupied housing. Many researchers have recommended including in income the value of goods and services received through social welfare programs,*** and adjusting income for differences in family size.

Morgan suggests that income be combined with information on the amount of effort involved in attaining that income, and that poverty be defined to include persons below one-third of the national average of his "index of well-offness."[*] Watts has suggested using permanent income and defining a "welfare ratio" as the ratio of permanent income to a poverty threshold."[**] Miller and Reissman have put forth the concept of "command over resources," in which they include the value of pension rights. In addition, they favor the concept of "inclusion" in economic, political, psychological, and social processes.[***] Factors of this kind may instead be treated as a means of achieving improvements in well-being rather than as a direct measure of it.

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*This chapter is a revised version of portions of Irving Leveson, "Strategies Against Urban Poverty," Transfers in an Urbanized Society, edited by Kenneth Boulding, et al. (Belmont, California: Wadsworth Publishing Co., Inc., 1973), pp. 130-159.

**B.L. Weisbrod and W.L. Hansen, "An Income-Net Worth Approach to Measuring Economic Welfare," American Economic Review, 58, No. 4, December 1968, pp. 1315-1329.

***U.S. President, Economic Report of the President, Washington: 1969, p. 161 and unpublished supporting tables, prepared by David Ott for the Council of Economic Advisers and Robert J. Lampman, "Transfer Approaches to Distribution Policy," American Economic Review, 60, No. 2, May 1970, pp. 270-279.

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[*] James N. Morgan, "The Supply of Effort, the Measurement of Well-Being, and the Dynamics of Improvement," American Economic Review, 50 (May 1968), pp. 31-39. Morgan proposes assuming that the indifference curves between income and leisure provide an index which is an ordinal measure of the combined utility. The problem with Morgan's measure is that it assumes that a person would be as well off as before if he suffered a one percent loss in income that was accompanied by a one percent increase in leisure. Leisure may have a lower value, particularly for the poor, however. Morgan's own evidence, cited earlier in his paper, that many poor desire more work than they are able to obtain supports this notion. Furthermore, additional utility may be derived from the receipt of earned income. Morgan's measure could be amended to include some value for self-sufficiency. See M.L. Skelnick, "A Comment on Professor Musgrave's Separation of Distribution from Allocation," Journal of Economic Literature, 7, No.2 (June 1970), pp. 440-442.

[**] Harold Watts, "An Economic Definition of Poverty," On Understanding Poverty, edited by Daniel Patrick Moynihan (New York: Basic Books, Inc., 1969).

[***] S.M. Miller and Frank Reissman, Social Class and Social Policy, New York: Basic Books, 1968, Ch. 1.

The Need for Improved Concepts and Measures

Poverty can be defined most comprehensively as the existence of a low level of utility. Differences among groups in utility are not sufficiently reflected in income alone, even if it is adjusted for assets, family size, and effort. A preferred approach is to define poverty so that it is related to the effectiveness of those processes in satisfying basic wants. Before this is formally done, it would be useful to enumerate some of the sources of differences in utility that may be important which an income measure would not explicitly reflect.

It generally has been regarded that the impact of restrictions which affect allocative efficiency is small.[*] However, union effects and occupational licensing tend to exclude the poor from employment while import quotas and minimum quality restrictions appear to raise costs most for the poor. It also appears likely that the poor bear disproportionate shares of the costs of economic growth, in terms of such problems as pollution, crime, and labor market dislocation.

The well-being of the poor may also be lower than indicated by incomes because of conditions in the markets in which they deal. Some examples are: 1) There are important economics of scale related to average transaction size in supermarkets which cannot easily be realized in the ghetto; 2) The size of the market makes it more difficult to get a physician when needed; and 3) Costs of credit to the poor are high because of high costs of more finely distinguishing risk classes. The poor tend to be less efficient consumers and producers of household activities,[*] more frequently lacking education, information on opportunities and knowledge of the implications of alternative choices for their well-being.

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[*] Harvey Liebenstein, "Allocative Efficiency vs. 'X-Efficiency,'" American Economic Review, 56, No. 3 (June 1966), pp. 392-415.

Incomes at poverty levels tend to fluctuate more greatly from year to year than at higher levels.[**] Closely related to these effects are the effects of transitory costs such as unusual medical expenses. The seriousness of these arises because the process of adjustment may have socially undesirable consequences. Adjustments to temporary reductions in income may take the form of a reduction in the stock of human capital or its rate of growth, such as by taking a job which is detrimental to health or by leaving school in order to work. Increased labor force participation of women may adversely affect child development when it occurs with little choice. One form of adjustment may be through criminal activity. The irregularity of incomes of the poor is part of a broad set of nonpecuniary labor market factors. The poor tend to receive jobs with the most undesirable hours of work and physical conditions and often which are considered boring, degrading, etc.

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[*] For example, see David Caplovitz, The Poor Pay More (New York: Free Press, 1968).

[**] See Jacob Benus, "Income Instability," Five Thousand American Families--Patterns of Economic Progress, Vol. I, edited by James Morgan, et al. Ann Arbor: University of Michigan Institute for Social Research, 1974, pp. 277-304.

The most discussed factor which could make utility vary other than in proportion to money income is the possibility of diminishing marginal utility of money. While economic theory has advanced without reliance on such a proposition, the absence of diminishing utility is by no means universally accepted. The notion of diminishing marginal utility of money derives from the tendency for increasing consumption of a particular commodity to lead to satiation.* If, as one consumes more and more of a particular commodity, he grows tired of it, why should not the same apply to the total of his consumption? The concept of diminishing marginal utility has been avoided because of enormous difficulties of measurement and the reluctance of theorists to make interpersonal comparisons. Lack of clarity about the way the concept applies may also contribute.

As incomes increase there is both an increase in consumption of previously consumed commodities and consumption of new commodities. In order for marginal utility of money not to diminish it would be necessary for the gains from the consumption of new commodities which have been made possible by the higher income to offset the declines in marginal utility from increased consumption of previously consumed commodities. When incomes change at a point in time, opportunities to shift consumption to new commodities are not equal for all income groups. Those with the highest incomes will have the least opportunity to shift consumption to commodities not previously consumed.

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*"Use value was rejected as the cause of exchange value by ignoring that men buy water and diamonds by increments and not all-or-none. It took the best minds a century to discover that wants are progressively satiable... and the diminishing utility of money is still questioned, in defiance of common sense." Frank H. Knight, "Laissez Faire: Pro and Con," American Economic Review, 75, No. 6 (December 1967), p. 78. Also see Henri Theil and Ronald Brooks, "How Does the Marginal Utility of Income Change When Real Income Changes?" University of Chicago Center for Mathematical Studies in Business and Economics, Report No. 7012, March 1970.

Over time new commodities are developed so that the rate of change of the marginal utility of money as incomes increase depends on the rate of growth of income and the rate of new product introduction. There need be no tendency for the marginal utility of money to decline for society as a whole if the rate of new product development is sufficiently high.*

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*Another mechanism by which diminishing marginal utility of money may arise stems from the time of the consumer as a relatively fixed factor of production. If we view the consumer as combining goods and services with his own time to producing various consumption activities, as income rises the quantity of goods and services utilized per unit of time increases. We would expect diminishing marginal utility of money to arise under these conditions as a result of the law of diminishing returns. A more complete analysis would specify whether incomes rose because of an increase in wage rates or property income, determine the way non-working time changed in response to income and substitution effects as income rose, and examine the effects of education on the efficiency in the use of time. Here we rely on observations that non-work time tends to rise with rising incomes less rapidly than incomes have grown.

Construction of a Social Index

In order to overcome the inadequacies of measures of well-being and poverty based on income alone, it is necessary to take into account many factors from which utility is derived. In practice this is done by examination of various social indicators without any formal framework or set of weights. Here we seek to make the development of aggregates more explicit.

There is no uniquely correct Social Index. Conceptually, we desire a set of measures which include anything which enters into anyone's utility function. Empirically, we would prefer a small group of measures upon which there is some general agreement. In going from the one to the other the preferences of the decision-maker or the technician inevitably enter. The choice of indicators and weights may reflect the concerns of a particular group or the kinds of problems they have power to influence. There can be subgroup social indices for problem areas. The problem of whose social welfare function is to be optimized will not be solved here, but in the political arena. It is there that problems of interpersonal comparisons of utility and aggregation of preferences are resolved.*

Decision-makers can assign their own weights either implicitly or explicitly. Researchers can assist by indicating the weights implicit in any overall index and the way choices would vary with alternative sets of weights. Decision-makers can choose weights implicitly by indicating a preference for an index which leads to an array of outcomes they like. The value of a Social Index is primarily dependent upon its usefulness in an actual decision-making process.

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*Many persons become unduly sidetracked by problems of weighting. James Coleman reminds us that the approach in which the weights are considered external "is a carry-over from an earlier and more naive view of social welfare, in which it was assumed that the economist, as adviser to the policy-maker, could assess the tastes of individuals through some sort of measurement, and then tell the policy-maker what was best for the people--always in terms of their own tastes. In fact, however, it is the political process itself which, together with the existing structure of collective decision-making, expresses these tastes." "The Possibility of a Social Welfare Function," American Economic Review, 56, No. 5 (December 1966), pp. 1107-1108.

There are advantages for keeping the choice of weights flexible, since their negotiation is an important part of the political process. At the same time, formal analysis can be facilitated by the construction of overall social indices and poverty measures based on them. These provide the dependent variables for analyses of the impacts of alternative policies. Analysis can be conducted with alternative weighting schemes and empirical results based on alternative weights presented in terms of choices, such as between a high safety-security strategy and a high consumption strategy.

A Social Index (SI) is defined as follows: the change in a Social Index (ΔS) can be viewed as a weighted average of changes in separate indices (Δs_j) each measuring some aspect of health, safety, comfort, etc., which enter directly into utility functions. The values $\bar{\mu}_j$ indicate the social value of increments in s_j. Thus

$$\Delta S = \sum_{j=1}^{m} \Delta s_j \ \bar{\mu}_j \tag{1}$$

The $\bar{\mu}_j$ are averages here since rather than applying to small changes in s_j, they are used to value changes over a range which may be sizable. While for simplicity we treat these values as fixed, in principle they could easily be made a function of the level of component indices.*

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*Indices of socioeconomic status (SES) appear to have the same objectives as a Social Index. Rather than attempt to sort out independent effects of a large number of highly correlated measures, a small number

An index could usefully include such components as:

Component	Example of Measure
Food consumption	Caloric intake
Clothing consumption	Real per capita expenditures
Transportation	Average travel time to work
Health	Mortality ratio
Housing	Quality index
Recreation	Real per capita expenditures
Environment	Population density, pollution index
Safety	Rate of crimes against persons
Security	Unemployment rate
Knowledge	Educational attainment
Self-sufficiency	Percent of income earned
Job satisfaction	Length of time on most recent job
Peace	Proportion of income devoted to military uses
Freedom	Proportion of persons involuntarily at present residence (e.g., incarcerated)
Love	Proportion of births unwanted, prevalence of divorce
Honor	Frequency of broken contracts

This list is only suggestive. It includes physical measures, consumption expenditures which can be viewed as indexes of physical quantities, measures of time devoted to activities, and measures of the psychological environment in which consumption takes place. The weights of such indexes would reflect both the units in which they are measured, the priorities attached to each component, and the other components included in the index.

It would be possible to construct a very simple Social Index by combining data on real per capita consumption expenditures with a few basic measures which are normally omitted from an expenditure index. There would necessarily be substantial differences of opinion on the construction

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which are important and partially independent (particularly income, education and occupation) are chosen to represent a broad range of conditions. The problem with SES is that however explicit are the weights of the indicators being combined, one can never determine the weights being assigned implicitly to the underlying conditions they reflect without major empirical research. An SI is quite explicit in this regard. It is possible to view an SES as a special case of an SI, but this presumes that the indicators in the SES are more directly valued.

of such an index. Some persons might classify divorce as a positive measure of freedom rather than the absence of love. The trade-off between peace and honor has been the subject of strong national debate. Extensive experimentation will be necessary and acceptance will be the ultimate test.

Relationships Between Income and Other Social Indicators

It is possible to form some general impressions about the shape of an overall Social Index. The relationships between measures of well-being and income have been found quite generally to have the shape of the curve in panel (A) of Figure 1. A dollar additional income makes the greatest difference in well-being when the level of income is very low. Some examples include the income pattern of housing quality, many physical health measures and some mental health measures, greater relative instability of income among the poor, high illiteracy among the very poor, and the tendency for neighborhoods with the highest concentrations of persons with very low income to have more crime and addiction and poorer sanitation.*

The use of a poverty line, on the other hand is equivalent to assuming that the level of utility is discontinuous, with a jump at the poverty line

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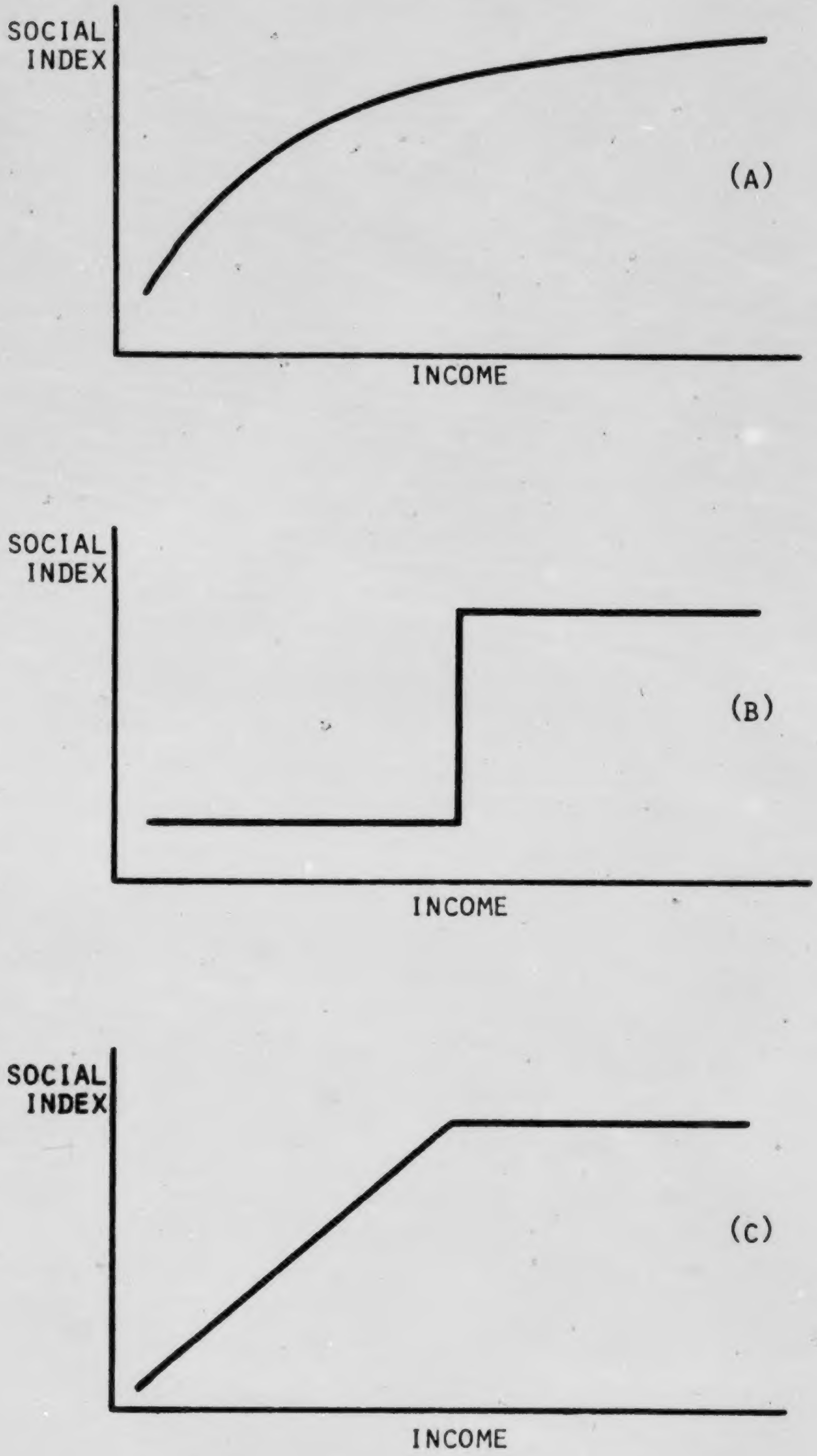
*In the case of health, Auster, Leveson and Sarachek have suggested that occupation and consumption choices are made in part as a result of rising income and in part in order to achieve increases in income. Therefore, because they produce other satisfactions, choices will be made even though they may be detrimental to health. See Richard Auster, Irving Leveson and Deborah Sarachek, "The Production of Health, An Exploratory Study," Journal of Human Resources (Fall 1969), pp. 411-436.

There is some possibility that the shape is spurious in the absence of appropriate aggregate indicators. A curve for a single health indicator could, for example, reflect either diminishing returns in production or diminishing marginal utility of gains in that indicator. However, as income rises, emphasis may shift to another health indicator. If so, we would have to measure a "shift effect" in going from one measure to another rather than simply move first along one curve and then another. A measure of utility derived from all improvements in health as income rises might then vary proportionally with income, contrary to the impression given by individual indicators.

FIGURE 1


SOCIAL INDEX
INCOME
(A)
SOCIAL INDEX
INCOME
(B)
SOCIAL INDEX
INCOME
(C)

as in panel (B).[*] Poverty also can be defined in terms of the difference between one's income (y_i) and a poverty line (L) for persons with incomes below the poverty line. This assumes that utility differences are proportional to income differences as in panel (C). The aggregate of the differences in income from the poverty line is what Lampman called the "Poverty Income Gap" (G).[***] If n_i is the number of individuals with income of $y_i < L$, the poverty gap G is

$$G = \sum_{i=o}^{n} (L - y_i)\, n_i \,. \tag{2}$$

In actuality, however, well-being appears to increase more than in proportion to income at low levels and less thereafter rather than proportionally throughout the range.

Let L represent some minimum standard of income. This could be defined as the point above which the Social Index is essentially flat if our representation is correct. Define σ_{ij} as the change in jth social indicator per dollar that income changes when income is below L at y_i. Let μ_{ij} be the marginal utility of a unit change in the jth social indicator when income is at y_i. The μ_{ij} could allow for many factors including emphasis placed on any particular indicator by different individuals, diminishing marginal utility of money, the way interdependencies among social indicators affect the utility of the individual, or the interdependencies between the utility functions of members of society. The set of weights given to different deficiencies in income is

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[*] For a discussion of the inadequacies of a single poverty line, see Thomas I. Ribich, Education and Poverty, Washington: The Brookings Institution, 1968, Chapter II. Ribich proposes the use of two poverty criteria such as the Social Security Administration's "poor" and "near poor" designations. In effect he approximates a curve with a three-level step function in the interests of simplicity. However, Ribich, who is critical of the use of income alone, suggests that cultural factors be introduced into the measure. Here we bypass the need to specify the determinants of a low level of well-being by directly measuring their consequences in a Social Index.

[**] Robert J. Lampman, "Approaches to the Reduction of Poverty," American Economic Review, 55, No. 2 (May 1965), p. 523.

$$w_i = \sum_{j=1}^{m} \sum_{i=0}^{L} \sigma_{ij} \mu_{ij} \qquad (3)$$

We can now define a new measure, a Poverty Differential (D), as a transformation of the poverty gap which allows for the way in which utility varies with money income.

$$D = \sum_{i=0}^{n} w_i (L - y_i) n_i . \qquad (4)$$

Because a Poverty Differential is a weighted sum of income differences, it includes the Poverty Income Gap as a special case. D is identical to G when all $w_i = 1$. A Poverty Differential would tend to differ from a poverty gap in that it would respond more strongly to real improvements in deep poverty.

The Production of Well-Being

The process by which changes in social indicators come about can be usefully understood within the framework of Lancaster's "New Approach to Consumer Theory."* In the model goods are used in more fundamental activities such as "going to the movies," and the activities are undertaken because they produce desired characteristics such as relaxation. The set of functions that indicate the amount of characteristics produced by activities is designated the "technology of consumption."

Generally activities produce more than one characteristic. The amount of each characteristic that can be obtained from a given expenditure on an activity can be compared with the amounts that can be obtained from an equal expenditure on another activity. An activity that produces less of each characteristic than another with an equal expenditure can be ruled out as an inefficient choice. The choice of relative quantities of the remaining activities then depends on the relative preferences for alternative characteristics. That is, the consumer "makes an efficiency choice in rejecting goods which do not enable him to reach an efficiency frontier and a private choice in finding the preferred point on the frontier."**

The counterpart of Lancaster's characteristics in our analysis is the social indicators which measure various aspects of well-being. The analog of activities is life styles. Life styles define an aggregate set of activities or an aggregate production function. Herman Kahn has suggested that the concept also be used to distinguish population groups with substantially different sets of preferences and values. We would classify different circumstances as different life styles only if they have major consequences for differences in well-being. The level of well-being is determined by the level of income, the distribution of families among life styles, and the efficiency with which resources are used within life styles.

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*Kelvin Lancaster, "A New Approach to Consumer Theory," Journal of Political Economy," April 1966, pp. 132-57, and "Change and Innovation in the Technology of Consumption," American Economic Review, 56 (May 1966): 14-23.

**"Change and Innovation," p. 17.

We cannot infer that the shape of Figure 1, panel (A) is produced by a tendency for a dollar of added income to produce greater changes in well-being at low income levels than at higher levels, either because of diminishing returns in production or because of life style shifts. Gross differences such as depicted may be attributable to other factors which often rise with income such as education. Income increases unaccompanied by those changes would not be expected to have the same result. A thorough examination of the factors which generate changes in social indicators is necessary to understand these forces.

REVISION OF POVERTY STANDARDS OVER TIME

Introduction

Poverty standards have risen in the past with increasing income but they have not done so at a uniform rate. Periodically there has been renewed interest in the problem of poverty and new standards have been established. Statistical definitions of poverty have become critical in the formulation of public policy toward income maintenance and social insurance. With increasing frequency they have been used as explicit criteria in determining the eligibility for programs and services and for evaluating their impact. Reliance on an official definition of poverty makes it essential to develop a systematic method for updating the poverty standard over time.*

Standards have continued to grow at a reasonably predictable rate. The use of a smooth method of updating is essential in order to avoid the erratic effects on planning and budgeting of an occasional large jump. Orderly updating can help to assure that the poor have a more even sharing of economic gains.

Until now there has been no agreement on the way in which poverty standards should be revised over time. The official definition takes into account changes in the Consumer Price Index but does not take into account the growth of real income. Proponents of alternative measures of poverty differ as to whether or not the poverty standard should be adjusted proportionally for changes in income or whether it should remain at an absolute level. The analysis develops a methodology which provides a solution to this problem and is consistent with the criteria which will be developed for the revision of program benefit levels.

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*Bette Mahoney, "Review of Poverty and Income Distribution Statistics," Statistical Reporter, (January, 1974), pp. 117-121.

Revision of Standards

The Orshansky Index developed by the Social Security Administration has served as the standard measure of poverty. It contains useful detail, defining poverty according to family status, family size, age, sex of family head and farm/non-farm status and provides a standard for the near poor as well (Table 1). The level at which the poverty line was set in 1960 ($3,022) for a non-farm family of four) was widely accepted when it was introduced. It provides a very reasonable standard for that time. The Social Security Administration also defines a more generous near poverty level.* These measures have been updated regularly for changes in the Consumer Price Index. Fuchs has suggested that poverty be measured by half of the median income.** A wide variety of other measures have been used.

Measures of poverty can be viewed as consisting of two primary features. The first is the level of income at which poverty is defined at a moment of time. The second is the way in which the poverty standard is raised over time. Establishing a poverty standard and revising it over time may be carried out using entirely different criteria.

The Orshansky Index and Fuchs measure are polar extremes in their handling of changes in the poverty standard. The Orshansky Index does not respond at all to increases in real income; it is an "absolute" poverty standard. The measure "half of the median income" automatically rises in proportion to increases in real income. It is a "relative"

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*Mollie Orshansky, "Recounting the Poor - A Five Year Review," Social Security Bulletin (April, 1966), pp. 20-37.

**Victor Fuchs, "Redefining Poverty and Redistributing Income," The Public Interest, 8, (Summer, 1967), pp. 88-95.

TABLE 1

ORSHANSKY INDEX BY DEMOGRAPHIC CATEGORY, 1973

Size of Family Unit	Total	Nonfarm			Farm		
		Total	Male Head *	Female Head *	Total	Male Head *	Female Head *
1 person (unrelated individual)	$2,239	$2,247	$2,350	$2,174	$1,887	$1,951	$1,832
Under 65 years	2,302	2,307	2,395	2,215	1,974	2,035	1,883
65 years and over	2,119	2,130	2,151	2,123	1,813	1,829	1,804
2 persons	2,874	2,895	2,904	2,847	2,434	2,439	2,346
Head under 65 years	2,967	2,984	2,999	2,908	2,543	2,546	2,455
Head 65 years and over	2,662	2,688	2,690	2,675	2,285	2,285	2,285
3 persons	3,525	3,548	3,565	3,447	3,005	3,015	2,878
4 persons	4,512	4,540	4,542	4,521	3,871	3,872	3,775
5 persons	5,322	5,358	5,364	5,299	4,561	4,560	4,609
6 persons	5,979	6,028	6,034	5,965	5,147	5,144	5,206
7 or more persons	7,359	7,435	7,455	7,288	6,349	6,357	6,150

* For unrelated individual, sex of the individual.

Source: U. S. Bureau of the Census, Current Population Reports, Consumer Income, Characteristics of the Low-Income Population, 1973, Series P-60, No. 94, July 1974, Table 7.

poverty standard in the sense that it implies that the poor are no better off when their incomes increase unless they increase relative to the non-poor. We will opt for the use of a semi-relative definition of poverty.

The degree of relativeness of poverty is characterized by the "income elasticity of the poverty line." The "income elasticity of the poverty line" tells the number of percentage points which the poverty line increases for a one percent change in real income. An absolute measure of poverty has an income elasticity of zero; when income rises the poverty line remains the same. A relative measure such as "half the median income" has an income elasticity of 1.0 since it increases in proportion to median income. A semi-relative measure of poverty has an income elasticity between zero and 1.0; the poverty line rises when income rises, but not as rapidly.

One way to determine how fully to adjust the poverty line to increases in income is to examine public attitudes. The Gallup Poll provides responses to the question "What's the smallest amount of money a family of four (husband, wife and two children) needs each week to get along in this community." The result is a measure which is consistent over an extended period of time. The responses define a level of living which is relatively high for a poverty line--well above the Orshansky poverty line but below the near poverty line around the time the official level was established. However, we can learn from the behavior of the Gallup measure how standards of poverty respond to income changes. In a recent study Kilpatrick has shown that the Gallup measure rises about six-tenths as fast as real income; that is, it has an income elasticity of .6. The estimate is consistent in a variety of tests.*

In Table 2 we derive estimates of the income elasticity of the poverty line using data for all available years from 1947 to 1973. A one percent increase in median family income is associated with a .67 percent increase in the Gallup minimum income standard (linear "income only" equation with the elasticity evaluated at the mean). In the double logarithmic regression the estimated elasticity is .66. The second set of equations examines the way in which the estimates are affected by inclusion of variables reflecting inflation, recession and war. Neither the percentage change in the Consumer Price Index, the unemployment rate nor defense expenditures as a percentage of Gross National Product have a statistically significant influence.**

This finding increases our confidence in the interpretation of the measure. Variation with economic activity would suggest the measure reflected income expectations, earnings capacity or some other market related concept rather than a more basic standard. The estimates of the income elasticity of the poverty line are virtually unchanged--.66 in the linear form and .65 in logarithmic case. The estimates are lower than 1.0 by amounts which are statistically significant at high levels.

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*Robert Kilpatrick, "The Income Elasticity of the Poverty Line," *The Review of Economics and Statistics*, 4, No. 3 (August, 1973), pp. 327-332. Kilpatrick explored the use of different time periods, the use of median and mean income and the use of current and permanent income measures.

**Variation in the rate of price change was dominated by the rapid inflation from 1946 to 1947 as wartime price controls were lifted. In order to test for this effect the regressions were rerun for the years 1948 to 1973. The income elasticity in those tests was slightly lower, .6, and none of the other variables approached significance.

TABLE 2

RELATIONSHIP OF GALLUP MINIMUM INCOME* TO MEDIAN INCOME AND OTHER VARIABLES, AVAILABLE YEARS, 1947-1973

	Linear		Logarithmic	
	Income Only	All Variables	Income Only	All Variables
Intercept	39.1	28.8	1.84	1.84
Median Income (hundreds of 1973 dollars)	.907 (.082)	.887 (.093)	.659 (.057)	.645 (.063)
Inflation Rate**		-.167 (.920)		.003 (.007)
Unemployment Rate**		2.154 (3.312)		.012 (.027)
Defense Expenditure Rate**		.411 (1.234)		.002 (.010)
R^2	.910	.920	.919	.929
Dubin-Watson statistic	1.86	2.219	1.72	2.12

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* 1973 dollars

** linear

Note: Standard errors are in parentheses

Comparison of Poverty Lines

The Orshansky poverty line for non-farm family of four was $4,540 in 1973 dollars.* The Orshansky measure adjusts for price changes only and therefore shows no change when expressed in constant dollars. Table 3 compares the Orshansky measure, calculated with an income elasticity of the poverty line of zero, with the poverty lines that are obtained using alternative values for the income elasticity.** With an income elasticity of 1.0 the poverty line rises from $3,236 to $6,485 between 1947 and 1973 reflecting the doubling of real median income. The poverty lines shown start at the same level in 1960. More recent values are higher than the Orshansky poverty line when a positive income elasticity is used. This reflects the fact that the poverty line is raised by some proportion of the increase in real income. The difference between the poverty line with a positive income elasticity and the poverty line with an income elasticity of zero is greater the larger the income elasticity. On the other hand a high income elasticity means that the poverty line must have been rising more rapidly in the past in order to reach its 1960 level. Thus, in the earlier years poverty lines with positive income elasticities are at lower levels than the Orshansky measure. This result is quite reasonable, for to assert that the poverty line does not respond to income growth at all is to imply that the poverty standard was a larger and larger proportion of median income as we go further back in time. It is not reasonable to assume that the poverty line for a non-farm family of four was as high as three-fourths of the median income of families and

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*Figures may vary slightly due to rounding.

**Details of the method of calculation are presented in Appendix A.

TABLE 3

ORSHANSKY POVERTY LINE FOR A NON-FARM FAMILY OF FOUR, BY INCOME ELASTICITY OF THE POVERTY LINE, 1947-1973

(1973 Dollars)

	Income Elasticity of the Poverty Line					
Year	.0	.2	.4	.6	.8	1.0
1947	$4,540	$4,236	$3,955	$3,662	$3,458	$3,236
1948	4,540	4,214	3,914	3,636	3,388	3,154
1949	4,540	4,201	3,891	3,604	3,348	3,107
1950	4,540	4,248	3,979	3,727	3,502	3,287
1951	4,540	4,282	4,040	3,815	3,611	3,412
1952	4,540	4,308	4,089	3,885	3,696	3,511
1953	4,540	4,374	4,216	4,068	3,928	3,789
1954	4,540	4,352	4,179	4,010	3,854	3,700
1955	4,540	4,409	4,286	4,164	4,053	3,936
1956	4,540	4,467	4,400	4,333	4,271	4,201
1957	4,540	4,467	4,400	4,333	4,271	4,205
1958	4,540	4,467	4,400	4,333	4,271	4,205
1959	4,540	4,517	4,499	4,476	4,458	4,440
1960	4,540	4,540	4,540	4,540	4,540	4,540
1961	4,540	4,549	4,558	4,566	4,575	4,584
1962	4,540	4,574	4,609	4,644	4,679	4,715
1963	4,540	4,606	4,673	4,741	4,810	4,880
1964	4,540	4,641	4,743	4,849	4,956	5,066
1965	4,540	4,677	4,819	4,965	5,115	5,270
1966	4,540	4,722	4,911	5,108	5,313	5,526
1967	4,540	4,750	4,969	5,198	5,438	5,689
1968	4,540	4,790	5,053	5,331	5,624	5,933
1969	4,540	4,825	5,127	5,448	5,790	6,153
1970	4,540	4,811	5,099	5,404	5,727	6,069
1971	4,540	4,809	5,094	5,396	5,715	6,054
1972	4,540	4,856	5,195	5,556	5,943	6,357
1973	4,540	4,876	5,236	5,623	6,039	6,485

individuals of $6,011 (1973 dollars) in the years immediately following World War II. When an income elasticity of .6 is used the poverty line obtained for a non-farm family of four is 19 percent below the Orshansky level in 1947 and 24 percent higher in 1973.

Table 4 shows the Orshansky poverty line for a non-farm family of four and for non-farm individuals using an income elasticity of the poverty line of .6. The 1960 figures are the values which apply to every year when the income elasticity is zero. For comparison the table also shows the Gallup minimum income level (for available years) which reflects a long run average income elasticity of .6 - .7. "Half of the median income" which adopts an income elasticity of 1.0 is also shown.

TABLE 4

ELASTIC POVERTY LINES

Year	Orshansky Poverty Line with Income Elasticity .6: Non-farm Poor Family of Four	Orshansky Poverty Line with Income Elasticity .6: Non-farm Poor Individual	Gallup Minimum Income (implicit elasticity .6)	Half of Median Income (Fuchs measure, elasticity 1.0)
1947	$3,662	$1,814	$4,420	$3,006
1948	3,636	1,801	4,784	2,932
1949	3,604	1,785	4,836	2,888
1950	3,727	1,846	n.a.	3,054
1951	3,815	1,890	5,356	3,170
1952	3.885	1,924	5,200	3,262
1953	4,068	2,015	n.a.	3,517
1954	4,010	1,986	5,148	3,439
1955	4,164	2,062	n.a.	3,660
1956	4,333	2,146	n.a.	3,903
1957	4,333	2,146	5,928	3,907
1958	4,333	2,146	n.a.	3,906
1959	4,476	2,217	n.a.	4,122
1960	4,540	2,249	n.a.	4,218
1961	4,566	2,262	n.a.	4,259
1962	4,644	2,300	n.a.	4,380
1963	4,741	2,348	n.a.	4,534
1964	4,849	2,402	n.a.	4,706
1965	4,965	2,459	n.a.	4,896
1966	5,108	2,530	7,020	5,133
1967	5,198	2,575	6,968	5,286
1968	5,331	2,640	n.a.	5,512
1969	5,448	2,698	6,396	5,715
1970	5,404	2,677	7,488	5,637
1971	5,396	2,673	7,228	5,623
1972	5,556	2,752	8,216	5,905
1973	5,623	2,785	7,904	6,026

n.a.--not available

Implications of an Elastic Poverty Line for the Poverty Income Gap

Before considering some interpretations of the income elasticity of the poverty line the implications for past and future poverty income gaps are considered. The poverty income gap measures the amount of income which would raise all families and individuals below the Orshansky poverty line up to the line. The use of the poverty income gap does not imply that that specific amount of money should be given to the poor but rather gives a general magnitude of the size of the poverty problem. The actual distribution of program benefits among groups varying by level of income depends on the way in which complex work incentives, equity and other issues are resolved. The measures shown are based upon the Current Population Survey. The gap is overestimated by several billion dollars because of the exclusion of benefits under a number of programs. In the official figures the gap is calculated from individual observations using separate poverty lines applicable to different poverty subgroups. Our measures are calculated from aggregate data and adjusted to conform with the figures derived on a detailed basis.

Table 5 compares poverty income gaps under the Orshansky Index with the gaps for an income elasticity of .6. When the poverty line remains constant the deficit was nearly cut in half between 1947 and 1973, from $23 billion to $12 billion in real terms. When the poverty line is raised 60 percent as fast as income the gap increased by one-third between 1947 and 1960 but remained at about $21 billion in 1973. The difference is particularly strong for individuals. With one measure the gap dropped by one-seventh over the entire period while with the other it more than doubled.

TABLE 5

POVERTY INCOME GAP BY INCOME ELASTICITY OF THE POVERTY LINE, BY FAMILY STATUS, 1947, 1960 AND 1973

(billions of 1973 dollars)

Income Elasticity .0

Year	Families	Individuals	Total
1947 (1)	$18.3	$5.1	$23.4
1960 (2)	15.1	5.7	20.8
1973 (3)	7.6	4.4	12.0

Income Elasticity .6

Year	Families	Individuals	Total
1947 (4)	$11.3	$3.4	$14.7
1960 (5)	15.1	5.7	20.8
1973 (6)	13.3	7.3	20.6

Source: Lines 2, 3 and 5 from U.S. Bureau of the Census, *Current Population Reports, Consumer Income*, series P.60, Nos. 68 and 94. Lines 1, 4 and 6 were derived by first calculating the poverty income gap from aggregate income distributions published in the P-60 series and then adjusting for proportional differences between aggregate estimates and exact figures calculated by the Bureau of the Census based on subgroup poverty lines and income distributions.

The differences become even more dramatic when a longer period of time is considered. Projections have been made to 1980 and 1985 for alternative growth rates assuming the income distribution shifts upward proportionally and allowing for population growth. Table 6 shows how the poverty lines would vary under alternative income elasticities of the poverty line. With an income elasticity of .6 the poverty line for a non-farm family of four is $2,400 higher than with an income elasticity of zero in 1985, a difference of more than 50 percent. The growth rate assumption of 3 percent is closest to the 1947-63 average of 2.7 percent.

With a constant poverty line the poverty income gap continues to fall substantially (Table 7). With a 3 percent growth rate the gap is below $8 billion. Taking into account transfers which are not included in these figures and anticipating moderate growth in transfers the poverty income gap by this measure would effectively be zero by 1985.

The results with an income elasticity of .6 are quite different. The poverty income gap continues at above $20 billion in each year under every growth rate assumption (Table 8). The gap rises from $21 billion to $23 billion between 1973 and 1985 as a result of an increase in population. Although economic growth will reduce the percentage of families and individuals in poverty, if a somewhat elastic definition of poverty is used the size of the deficit does not decline.

Table 9 notes that the use of an elastic measure results in a less rapid shift in the composition of poverty from families to individuals.

The estimates do not project more rapid increases in income for the poor than the nonpoor. The experience from 1947 to 1973 was that a one

TABLE 6

ORSHANSKY POVERTY LINE FOR A NON-FARM FAMILY OF FOUR FOR ALTERNATIVE RATES OF INCOME GROWTH, BY INCOME ELASTICITY OF THE POVERTY LINE, 1980 AND 1985

(1973 dollars)

		Income Elasticity of the Poverty Line					
Growth Rate	Year	.0	.2	.4	.6	.8	1.0
2%	1980	$4,540	$5,013	$5,535	$6,111	$6,747	$7,450
	1985	4,540	5,113	5,758	6,485	7,303	8,225
3%	1980	4,540	5,082	5,688	6,366	7,126	7,976
	1985	4,540	5,234	6,034	6,957	8,020	9,246
4%	1980	4,540	5,151	5,844	6,630	7,522	8,534
	1985	4,540	5,357	6,321	7,458	8,800	10,383
5%	1980	4,540	5,220	6,003	6,902	7,936	9,126
	1985	4,540	5,481	6,618	7,990	9,646	11,647

TABLE 7

POVERTY INCOME GAP IN 1980 AND 1985 FOR ALTERNATIVE RATES OF INCOME GROWTH, BY FAMILY STATUS, INCOME ELASTICITY OF THE POVERTY LINE ZERO

(billions of 1973 dollars)

Growth Rate	Year	Families	Individuals	Total
2%	1980	$6.4	$3.8	$10.3
	1985	5.7	3.6	9.2
3%	1980	5.7	3.5	9.2
	1985	4.7	3.0	7.7
4%	1980	5.1	3.2	8.3
	1985	3.9	2.6	6.5
5%	1980	4.6	2.9	7.4
	1985	3.2	2.6	5.5

Note: Derived by assuming the distribution of income shifts upward proportionally and applying the percentage changes in poverty income gaps calculated from aggregate distributions to the 1973 figures.

TABLE 8

POVERTY INCOME GAP IN 1980 AND 1985 FOR ALTERNATIVE RATES OF INCOME GROWTH, BY FAMILY STATUS, INCOME ELASTICITY OF THE POVERTY LINE .6

(billions of 1973 dollars)

Growth Rate	Year	Families	Individuals	Total
2%	1980	$14.1	$7.7	$21.8
	1985	14.8	8.1	22.9
3%	1980	14.1	7.7	21.8
	1985	14.7	8.2	22.8
4%	1980	14.3	7.8	22.0
	1985	14.9	8.2	23.2
5%	1980	13.9	7.8	21.7
	1985	14.4	8.3	22.6

Note: Derived by assuming the distribution of income shifts upward proportionately and applying the percentage changes in poverty income gaps calculated from aggregate distributions to the 1973 figures.

TABLE 9

PERCENT OF POVERTY INCOME GAP IN FAMILIES, BY INCOME ELASTICITY OF THE POVERTY LINE, 1947-1985

	Income Elasticity .0	Income Elasticity .6
1947	78.2%	76.9%
1960	72.6	72.6
1973	63.3	64.6
1980*	62.0	64.5
1985*	61.1	64.1

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*Assumes a 3 percent rate of growth of real income.

Source: Tables 7 and 8.

percent increase in median family income was associated with a 1 1/4 percent increase in the average income of the poorest fifth of families when variations in economic conditions are held constant.* A higher growth rate implies that a given amount of poverty reduction will come about in a shorter span of time. Such an assumption would make the declines with a zero elasticity even sharper. The calculations with an income elasticity of .6 show a roughly constant gap regardless of time period. These results are therefore not sensitive to assumptions about the relative growth of incomes of the poor.

The poverty income gap even with a .6 elasticity, represents only 2 percent of the trillion dollar U.S. national income in 1973. A constant gap with rising income implies that the gap is a decreasing percentage; by 1985 the poverty income gap would be only 1.4 percent. If account were taken of unmeasured transfers the gap would be 1 percent of National Income in 1985.

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*See next chapter.

A Further Application

After a rapid rise in the 1960s the average benefit rate under Aid to Families with Dependent Children fell back sharply, declining 10 percent in real terms between 1969 and 1973. Analysis of the effects of national economic conditions provides no evidence that this can be attributed to a lag in adjustment of benefits when the rate of inflation accelerated.* A highly plausible explanation emerges when benefit levels are compared with poverty standards, however.

The dashed line in Figure 1 shows 12 times the average monthly AFDC benefit as a percent of the official poverty standard for a woman with three children. Figure 2 shows the behavior of the AFDC benefit rate in relation to the same poverty line, computed with an income elasticity of .6. With the absolute poverty standard a decline begins after 1969. However the benefit rate shows a roughly constant relationship to the elastic poverty standard. The increase in the 1960s was unusual. The decline began in relative terms after 1967 and represented a return to the historical level. The benefit level which is sustained is consistent with the partially elastic poverty standard.

The solid lines plot the relationship of 52 times the average weekly unemployment rate to the annual poverty standard for a non-farm family of four. Again the benefit rate is roughly constant in relation to the elastic poverty standard for most of the period. The dotted lines show a similar but more erratic pattern for the minimum wage multiplied by 2,000 hours.

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*See next chapter.

FIGURE 1

RATIO OF SELECTED PROGRAM BENEFIT LEVELS TO POVERTY LINE
WITH INCOME ELASTICITY 0, 1947-1974

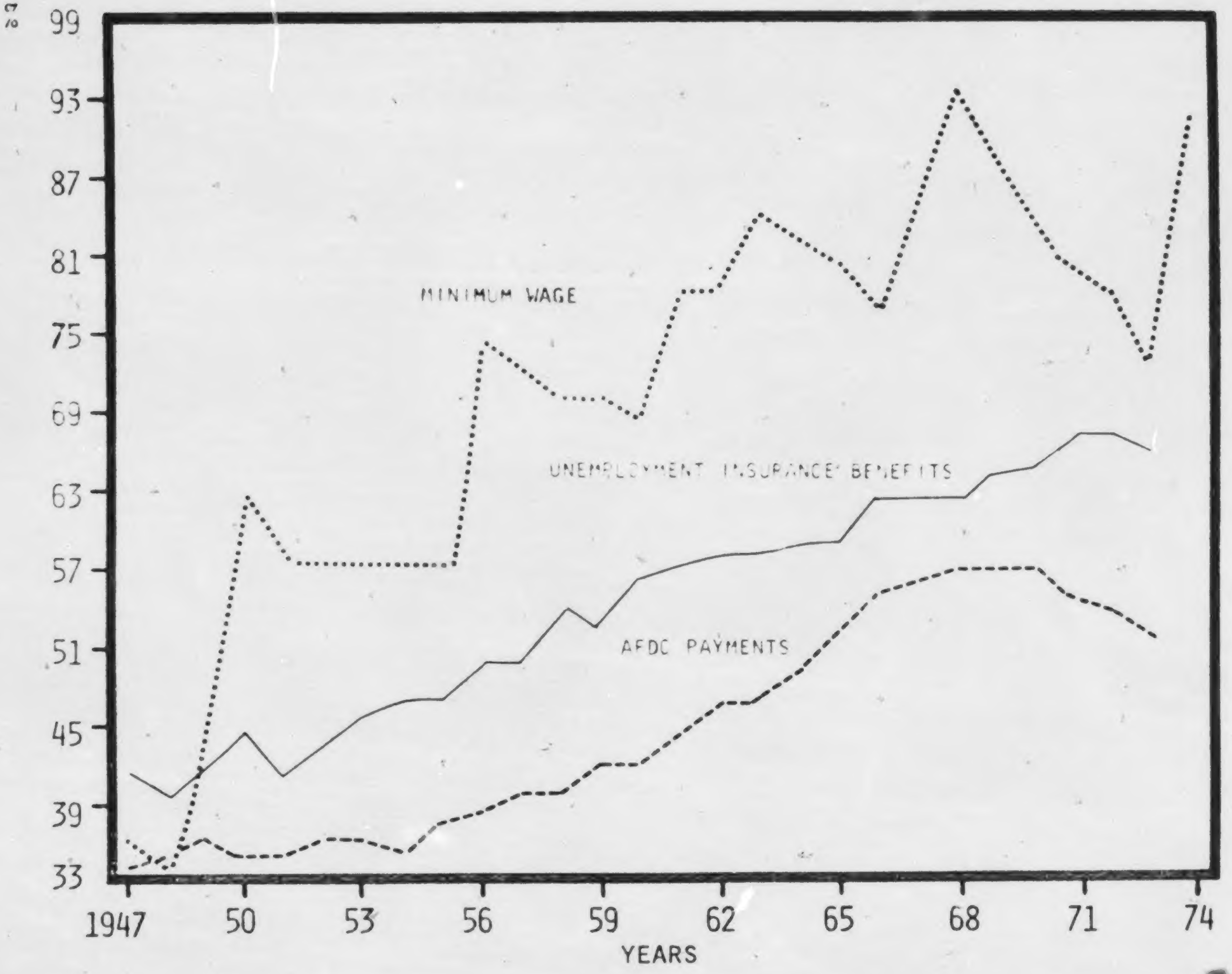
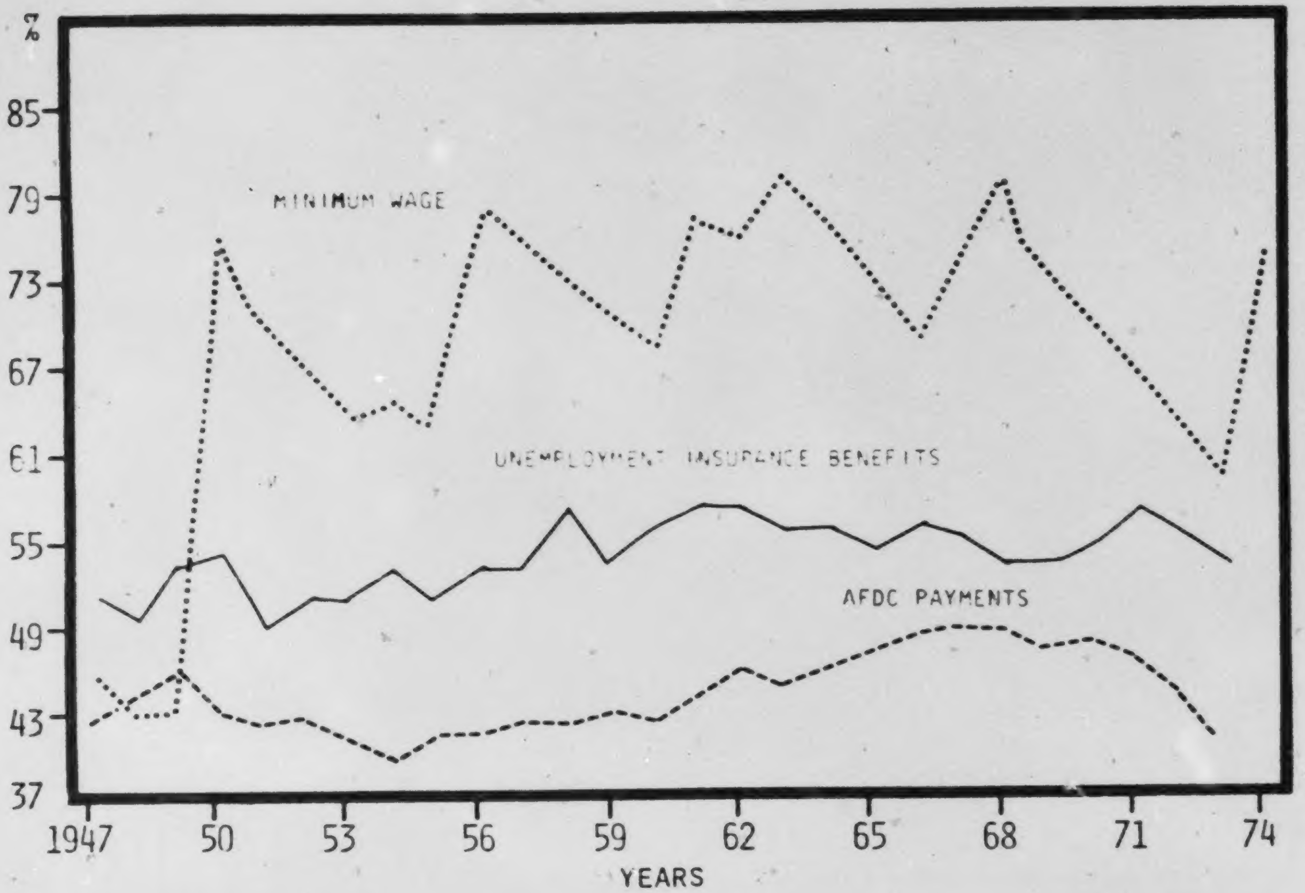


FIGURE 2

RATIO OF SELECTED PROGRAM BENEFIT LEVELS TO POVERTY LINE
WITH INCOME ELASTICITY .6, 1947-1974



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Interpretation of the Income Elasticity of the Poverty Line

Efforts prior to 1973 to estimate an income elasticity of the poverty line yielded numbers closer to 1.0. While a longer span of history was covered than is possible with the Gallup data, estimates were not comparable over time. Our estimate of .66 and Kilpatrick's estimate of .6 are statistically significantly lower than 1.0. Thus there appears to be something more than proportionality operating.

Differing Attitudes Toward "Deserving" and "Undeserving" Poor

One possible explanation for an income elasticity below 1.0 is that the overall income elasticity reflects a combination of desires to reward effort with proportional income gains and a desire to have a smaller distribution of the gains of progress to persons who are considered less deserving. The income elasticity of the poverty line may reflect some weighted average in which society is willing to give gains proportional to general gains in income to those persons who it would classify (if it could) as deserving poor and is willing to give either no gains or a much lower rate of gain to the undeserving poor.

There is some support for the notion that differences in how deserving a group is considered affects the way they are dealt with in the historical differences in treatment of the aged and disabled compared to welfare populations. Clearly, programs for the aged and disabled have been more generous. For example, Social Security and Supplementary Security Income are now firmly tied to the Consumer Price Index, while AFDC benefits require review and debate before adjustment and benefit increases lagged behind price rises. Furthermore, it was found that unemployment insurance benefits tended to be higher when unemployment rates were high--and the unemployed have less discretion as to whether or not to work.* However, this evidence does not indicate clearly whether the differences apply only to levels of benefits at a point in time or also apply to the way benefit levels for different programs vary over time in the long run.

One way to test the extent to which poverty standards differ according to how deserving a group is considered to be is to see whether or not the spread in benefit levels between categories of public assistance has increased over time. If for example the benefit levels for a group considered deserving were increasing proportionately to income and benefits for a group considered undeserving were increasing at only a fraction of that rate we would find a growing percentage difference between the benefit levels in different categories. Over a long period of time the consequences should be quite dramatic.

In Table 10 we examine the movements in the average monthly payment per recipient under the five categories of Public Assistance which were in existence until the first three were Federalized under SSI. The period until 1969 is considered since subsequent rapid economic and program changes may have been associated with distortions in the relative benefits under different programs. Benefits are shown as a percentage of benefits for Aid to the Blind. For our purposes the extent to which a group is deserving is equated with their degree of discretion in working. A rough ranking as to the degree of discretion in working would be: those on general assistance most, AFDC recipients second, the aged and disabled next and the blind with the least discretion. This ranking takes account of both physical conditions and job opportunities and is necessarily crude. However, the conclusion will not be affected by reasonable changes in the rankings.

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*See next chapter.

General assistance benefits rose rapidly in relation to Aid to the Blind after 1940, the opposite of what would have been expected. AFDC benefits also rose relatively from 1940 levels but changed little in relative level between 1950 and 1969. Old Age Assistance and Aid to the Disabled benefits decreased relative to benefits for the blind. To the extent poverty standards are reflected in benefit levels the hypothesis that standards are increased more rapidly for groups considered more deserving is not sustained. The rankings of benefit levels at a moment of time do seem to be consistent with the view that levels of benefits are set highest for groups considered to be most deserving but the pattern is very different for changes over time.*

Discussions concerning the level of the poverty line have centered around determination of need. The use of one particular need-based approach to the problem of changes over time is considered in Appendix B. The considerations which we have just examined focus not on need but rather on entitlement as a factor in the revision of poverty standards over time. There is another and very different kind of entitlement criterion which does appear to be consistent with the evidence and which provides very powerful programmatic implications as well. In order to understand this factor we must look behind the sources of economic growth in the United States.

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*We can use the relative level of benefits under each program as an alternative measure of the degree the groups are considered deserving for an additional test of the hypothesis. There is no positive correlation between benefit level and rate of benefit growth.

TABLE 10

AVERAGE MONTHLY PAYMENTS PER RECIPIENT UNDER FIVE CATEGORIES OF PUBLIC ASSISTANCE, 1940-1969

	Old-Age Assistance	Aid to the Blind	Aid to the Permanently and Totally Disabled	Aid to Families with Dependent Children	General Assistance
			Benefits		
1940	$20.25	$25.35	-	$9.85	$8.30
1950	43.05	46.00	$44.10	20.85	22.25
1960	58.90	67.45	56.15	28.35	24.85
1969	73.95	98.75	90.20	45.15	50.05
			Benefits as a Percent of Aid to the Blind		
1940	80%	100%	-	39%	33%
1950	94	100	96%	45	48
1960	87	100	83	42	37
1969	75	100	91	46	51

Source: U.S. Department of Health, Education and Welfare, Social and Rehabilitation Service, "Public Assistance--Annual Statistical Data, Calendar Year, 1969," NCSS Report A-7 (CY 69), Table 1.

The Distribution of Gains From General Sources of Economic Growth

Studies of economic growth have found that a large proportion of the increase in output in the American economy is not attributable to increases in quantities of labor, machinery and skills (human capital) but rather is accounted for by a residual which represents technological progress and other factors. The results become even more dramatic when changes in output per capita rather than total output are considered. Table 11 presents findings of Denison's landmark study for the period 1929-1969. Denison indicates the proportion of economic growth which is accounted for by each major source of economic growth. The measure of growth shown is potential national income per person potentially employed. This measure abstracts from fluctuations in the rate of use of productive capacity.

The important distinction for the present purposes is between those sources of growth which are associated with gains accruing specifically to individual workers, owners of factories, land, etc., as a result of their own efforts and those sources which produce gains which are of general benefit to society as a whole. In the category of specific sources of growth are clearly changes in the quantity of labor, capital and land. Education also contributes to higher earnings in ways that are systematically related to the efforts of individuals rather than general societal forces. The category "improved resource allocation" contains two elements--the shift of labor from farms to nonfarm activities and the shift from self-employment to wage and salaried employment. In both cases there is presumed to be low productivity in the initial activity. Productivity increases as a result of shifts to more productive sectors as wage rates attract labor from agriculture and self-employment. The gains of

TABLE 11

PERCENTAGE DISTRIBUTIONS OF GROWTH RATES OF POTENTIAL NATIONAL INCOME PER PERSON POTENTIALLY EMPLOYED, ACCORDING TO SOURCE OF GROWTH, 1929-1969

	1929-48	1948-69	1929-69
Potential National Income Per Person Potentially Employed	100	100	100
Sum of Advances in Knowledge and Economies of Scale	63	64	64
Advances in knowledge and not elsewhere classified	42	48	46
Economies of scale	20	17	18
Improved Resource Allocation	21	12	15
Farm	19	9	13
Nonfarm self-employment	2	3	2
Education per worker	27	17	21
Labor input per worker, except education	- 5	-11	- 9
Capital per worker	- 5	20	11
Land per worker	- 4	- 2	- 3
Dwellings occupancy ratio	1	*	1
Irregular factors	1	*	0

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*Closer to zero than .5 or -.5

Source: Edward Denison, Accounting for United States Economic Growth, 1929-1969, Washington: The Brookings Institution, 1974, Table 9.8.

geographic and occupational changes accrue to the employees as rewards for mobility.

There are two categories however which represent general rather than specific sources of economic growth. These are advances in knowledge and economies of scale. The gains from these sources are of such a nature that they accrue to the entire society rather than appearing as returns to specific workers, machines, etc. The method by which these gains are distributed throughout the population depends on very different aspects of the economic structure.

If the price level in the economy fell over time at the same rate as productivity[*] advanced the gains from general sources of economic growth would accrue to all consumers who could purchase larger quantities of goods and services with a given number of dollars. The gains would go both to persons who were working and to persons who were retired or otherwise on fixed incomes. If prices do not fall when productivity rises, persons who are working will share in the benefits in the form of higher wage rates. However, persons receiving pensions and income maintenance payments will not automatically receive the gains from general sources of economic growth.

Over the years the American economy has built up a large inflationary bias. It has been considered acceptable to allow prices to drift upward because policies to lower inflation further would have serious effects on unemployment in an economy with wages and prices that are not fully flexible downward. As a result, the benefits of general sources of growth are obtained in the form of wage increases which exceed the rise in the price level. Under these conditions indexing for price changes will not be sufficient for those population groups who do not participate through higher wages and additional efforts are necessary to assure that they receive an equitable distribution of the gains from economic progress. For the present we will focus on the implications of this process for the definition of poverty. In Chapters VI and VIII the implications for the determination of program benefit levels will be considered.

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[*] Defined here as output per unit of total factor input.

We can view the way in which we increase the poverty line over time as a statement regarding the extent to which the poor are expected to share in economic progress. Between 1929 and 1969 46 percent of the growth of potential national income per person potentially employed was associated with advances in knowledge and other factors not directly owned and 18 percent was associated with economies of scale. In combination these general sources of growth accounted for 64 percent of growth.* The figure was quite constant for the two sub-periods examined. Because estimates of this kind are necessarily subject to considerable error** it

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*Some advances take the form of improvements in products. A properly measured price index will show a product improvement that occurs without a change in the price charged as a decline in price as well. In fact indexes used to determine real income and product growth do not take product changes into account adequately. The estimates used would be somewhat different with better measures but the conclusions would not be fundamentally different. However, it should be noted that product improvements which are not associated with price increases will in fact be passed along as gains to the entire population.

**There have been various issues raised concerning whether changes which Denison classifies as advances in knowledge should be attributed to factors of production. Dale Jorgenson and Zvi Griliches in "The Explanation of Productivity Change," The Review of Economic Studies, 34, No. 3 (July, 1967) attribute gains associated with improvements in physical capital as increases in the quantity of physical capital. (See the is particularly reassuring that the 64 percent figure falls within the range of the Kilpatrick estimate of the income elasticity of the poverty line of .6 and our own estimate of .66. The estimated income elasticity of the poverty line is consistent with the explanation that the poverty standard has been updated over time in such a way as to share equally in percentage terms with the poor that part of economic growth which is attributable to general sources of productivity advance.

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exchange with Denison in the May 1972 Survey of Current Business.) Similar questions arise with regard to such factors as learning by doing on the job, knowledge acquired off the job after leaving school and the returns to research and development. The critical difference is that Jorgenson and Griliches treat the gains as the result of economic decisions rather than exogenously. For our own purposes we wish to treat as general sources not only exogenous advances but also those which do not accrue to the responsible individuals. Thus, a scientist performing basic research earns a salary which does not reflect the value to society of his achievements since the knowledge is unpatentable. The economic calculation from private R&D expenditures will not include that portion of the gains which is available without cost to competitors but general productivity advance will.

APPENDIX

Appendix A

COMPUTATION OF SEMI-RELATIVE POVERTY LINES

A semi-relative poverty line is computed from an initial level by updating not only for increases in the cost of living but also for a portion of the rate of growth of real income, designated as the "income elasticity of the poverty line" (K). For small changes the real percentage change in the poverty line can be calculated by multiplying K by the percentage change in real income, but the same procedure introduces some error for large changes. This can be seen by considering the extreme case of a 20 percent increase in income for two consecutive years. After one year income would be 120 percent of the initial level and after the second year 144 percent (1.20 x 120) rather than 140 percent because of compounding. If the poverty line were to increase 60 percent as fast as real income it would not increase by 26.4 percent (60 percent of 44 percent). Rather, the poverty line would increase 60 percent of 20 percent or to 112 percent of its initial level after the first year and by a compounded 12 percent to 125.4 (1.12 x 112) percent the second year. It is necessary to take K percent of the percentage change in real income one year at a time.

This discussion has so far only dealt with the question of annual compounding. Additional error is introduced by compounding during the year. However, this is quite small and can generally be ignored. Table B shows the exact values of the year-to-year percentage changes in the poverty line for .1 increments of the income elasticity of the poverty line and for whole percentage changes in income from -1 to +10 percent. The largest difference between these exact values and those derived by multiplication using annual rates is .12 percent (the exact rate for an income elasticity of .5 and a 10 percent real income growth is 4.88 percent as compared with the simple approximation of .5 x 10 or 5.0 percent). At commonly used values the error is typically only a tenth of a percent.

TABLE A

EXACT VALUES OF GROWTH OF SEMI-RELATIVE POVERTY LINES

	Income Elasticity of the Poverty Line									
Percent Change in Real Income	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
-1.00	-.10	-.20	-.30	-.40	-.50	-.60	-.70	-.80	-.90	-1.00
0.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1.00	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00
2.00	.20	.40	.60	.80	1.00	1.20	1.40	1.60	1.80	2.00
3.00	.30	.60	.90	1.19	1.49	1.79	2.09	2.39	2.70	3.00
4.00	.39	.79	1.18	1.58	1.98	2.38	2.78	3.18	3.59	4.00
5.00	.49	.98	1.47	1.97	2.47	2.97	3.47	3.98	4.49	5.00
6.00	.58	1.17	1.76	2.36	2.96	3.56	4.16	4.77	5.38	6.00
7.00	.68	1.36	2.05	2.74	3.44	4.14	4.85	5.56	6.28	7.00
8.00	.77	1.55	2.34	3.13	3.92	4.73	5.54	6.35	7.17	8.00
9.00	.87	1.74	2.62	3.51	4.40	5.31	6.22	7.14	8.06	9.00
10.00	.96	1.92	2.90	3.89	4.88	5.89	6.90	7.92	8.96	10.00

Derived from $\frac{P}{Po} = \left(\frac{Y}{Yo}\right)^n$

according to $\left(\frac{P}{Po} - 1\right) 100 = [\text{anti}\left(n \ln \left(\frac{Y}{Yo}\right)\right) - 1]\ 100$

POVERTY AND THE NATIONAL ECONOMY

Introduction

National economic conditions exert a powerful influence on the economic well-being of the poor. This chapter examines the historical patterns and formal analyses of the impact of economic forces--growth, business cycles, inflation--and discusses their policy implications. The findings of previous quantitative studies are considered in the first section. New empirical evidence is developed in the Appendix. The findings of the statistical analysis are summarized in the beginning of each section of the policy discussion.

Evidence on Poverty and Economic Conditions

Secular Changes

The size distribution of income indicates the percentages of families and individuals at various income levels. As the economy has become more productive and average real income has risen the entire distribution has shifted upward over time. The upward movement of the income distribution has been associated with a rapid rise of families out of poverty. The growth in real income has been very persistent during the last hundred years, averaging 2 1/2 - 3 percent in per capita terms when quarter-century long spans are considered.

Not only has the entire income distribution tended to rise in proportion to the average growth of real income but the shape of the distribution has moved in the direction of greater equality as well. The tendency for percentage gains to be greatest at the lowest income levels was particularly pronounced during the first half of the twentieth century. To the underlying trend was added an unusual change at the time of the New Deal. A more modest trend continued thereafter. Changes in the shape of the income distribution since mid-century have been produced by the growth of social spending programs to a larger extent than the changes which occurred earlier. Yet the recent variations were not comparable in size to the earlier trends toward equality which resulted more from acquisition of skills and movements of population and labor force. Evidence on these developments comes from observation of changes in the size distribution of income and of the relative earnings of skilled and unskilled workers.

Table 1 traces the share of income received by the poorest 20 percent of families and individuals since 1929. Consumer units with the lowest fifth of income increased their share of the personal income received by all consumer units from 3.5 percent in 1929 to 5.0 percent in 1947. This reflected a growth rate in the mean income of the lowest quintile of about 2 percent per year above the average for all consumer units. The increase in part reflects the strong manpower demand associated with World War II and the early post-war period. The share fell back to 4.8 percent in 1950, with a further drop to 4.6 percent in the recession year of 1961.*

A new series using somewhat different methodology begins in 1964. The data show a rise in the share of income of the lowest fifth of consumer units from 4.2 percent in 1964 to 4.8 percent in 1971. These changes appear to reflect the rapid expansion of the economy during this period. The evidence suggests that if the effects of fluctuations in the economy were removed little long term trend would emerge. This observation is supported by several econometric analyses.**

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*Analyses of these data from 1929 to 1963 appear in Lester Thurow, Poverty and Discrimination, Washington: The Brookings Institution, 1969, Chapter II. For some long term comparisons see Lee Soltow, "The Wealth, Income and Social Class of Men in Large Northern Cities of the United States in 1960," The Personal Distribution of Income and Wealth, edited by James Smith, New York: National Bureau of Economic Research, 1975, pp. 233-276.

**T. Paul Schultz examined the behavior of the Gini concentration ratio which measures the degree of equality in the entire income distribution. When the unemployment rate and rates of change of real output and wholesale prices were held constant there was a statistically significant but small trend toward equality during the period 1944-1965. See "Secular Equalization and Cyclical Behavior of Income Distribution in the United States, 1944-1965," in Lee Soltow (ed.), Six Papers on the Size Distribution of Income and Wealth, New York: National Bureau of Economic Research, 1969. Schultz's findings with the Current Population Survey were corroborated in the Social Security Continuous Work History Sample for

TABLE 1

PERCENT OF FAMILY PERSONAL INCOME RECEIVED BY CONSUMER UNITS WITH THE LOWEST FIFTH OF INCOME, 1929-1971

Old Series	Percent of Income
1929	3.5%
1935-36	4.1
1941	4.1
1944	4.9
1947	5.0
1950	4.8
1956	4.8
1961	4.6
New Series	
1964	4.2
1970	4.6
1971	4.8

Source: Daniel Rodner and John Hinrichs, "Size Distribution of Income in 1964, 1970 and 1971," Survey of Current Business, (October, 1974). Table 10.

The pattern for the period 1964-1971 is examined more closely in Table 2. The rise in mean income was 69 percent for all units at a time when prices rose 30 percent. In the 7 year period the mean income of individuals doubled, under the impetus of improved pension and health benefits for the aged and rapid economic expansion. After this unusual expansion in both the economy and public programs the mean income of the lowest fifth of consumer units stood at $2,785, just 30 percent of the median income of all consumer units.

The magnitude of the changes which have taken place in social welfare expenditures under public programs can be seen in Table 3. These increased from 8.9 percent of Gross National Product in fiscal year 1949 to 17.6 percent in fiscal year 1973. The rise was as great as in the entire history which preceded it. The greatest increases occurred in social insurance and education. Figures for more recent years would show a continuation of the trend.

Keat has documented the extent and pervasiveness of the more rapid rise of wages in unskilled jobs than in skilled jobs in the first half

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1957-1966 by John McCall in Income Mobility, Racial Discrimination, and Economic Growth, Lexington, Mass: Lexington Books, 1973. Using a human capital earnings function, Barry Chiswick and Jacob Mincer predict little change in income inequality of 35-44 year old males between 1965 and 1985. See "Time Series Changes in Personal Income Inequality in the United States from 1939, with Projections to 1985," Journal of Political Economy, 80, No. 3, Part II (May/June, 1972), pp. 534-566. The decline in income inequality between 1939 and the post World War II period has been attributed to the decline in unemployment, both by Chiswick and Mincer and by T. Paul Schultz in "Long Term Changes in Personal Income Distribution: Theoretical Approaches, Evidence and Explanations," P.4767, Santa Monica: The RAND Corporation, January, 1972.

TABLE 2

FAMILY PERSONAL INCOME OF LOWEST FIFTH OF CONSUMER UNITS BY TYPE OF CONSUMER UNIT, 1964 AND 1971

	1964	1971	Percent Change
All Consumer Units			
Percent of Income of Lowest Fifth	4.2%	4.8%	
Mean Income of Lowest Fifth	$1,652	$2,785	68.6%
Income Limit of Lowest Fifth	$3,012	$4,680	55.4%
Median Income	$6,459	$9,428	46.0%
Income Limit of Lowest Fifth as Percent of Median	47%	50%	
Families			
Percent of Income of Lowest Fifth	5.8%	6.6%	
Mean Income of Lowest Fifth	$2,576	$4,302	67.0%
Income Limit of Lowest Fifth	$4,071	$6,359	56.2%
Median Income	$7,354	$10,968	49.1%
Income Limit of Lowest Fifth as Percent of Median	55%	58%	
Individuals			
Percent of Income of Lowest Fifth	3.2%	4.1%	
Mean Income of Lowest Fifth	$638	$1,274	99.7%
Income Limit of Lowest Fifth	$1,167	$2,259	93.6%
Median Income	$2,761	$4,527	64.0%
Income Limit of Lowest Fifth as Percent of Median	42%	50%	

Source: Daniel Radner and John Hinrichs, "Size Distribution of Income in 1964, 1970 and 1971," Survey of Current Business, 54 (October, 1974), Table 4.

TABLE 3

SOCIAL WELFARE EXPENDITURES UNDER PUBLIC PROGRAMS AS A PERCENT OF GROSS NATIONAL PRODUCT, BY TYPE OF EXPENDITURE, FISCAL YEARS 1949-1973

	1949-50	1959-60	1969-70	1972-73*
Social Insurance	1.9%	3.9%	5.7%	7.0%
Public Aid	.9	.8	1.7	2.3
Health and Medical Programs	.8	.9	1.0	1.2
Veterans Programs	2.6	1.1	.9	1.1
Education	2.5	3.6	5.3	5.3
Other	.2	.2	.5	.5
Total	8.9%	10.6%	15.3%	17.6%

*Preliminary

Source: Alfred Skolnik and Sophie Dales, "Social Welfare Expenditures, 1972-73," Social Security Bulletin (January, 1974), Table 3.

of the century.* There is no evidence of a similar tendency since 1950, the period in which the share of income going to the poor rose largely with significant contributions from social spending programs. Figure 1 shows the relationship between the 1959 to 1969 percentage increase in earnings of persons working 50-52 weeks per year in 31 large occupations which could be easily matched over time and the 1959 level of earnings in those occupations. There was no tendency for above average increases to be concentrated in occupations which had the lowest initial earnings.**

The changes which have taken place in the distribution of income are represented hypothetically in Figure 2. The figure is drawn to depict the changes associated with a doubling of income, as occurred between 1947 and 1973.*** The solid lines depict proportional growth in the distribution of income, a convenient definition of "no change" in the shape of the distribution.**** The dotted line shows the

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*Paul Keat, "Long-Run Changes in Occupational Wage Structure, 1900-1956," Journal of Political Economy, 68, No. 6 (Dec. 1960), pp. 584-600.

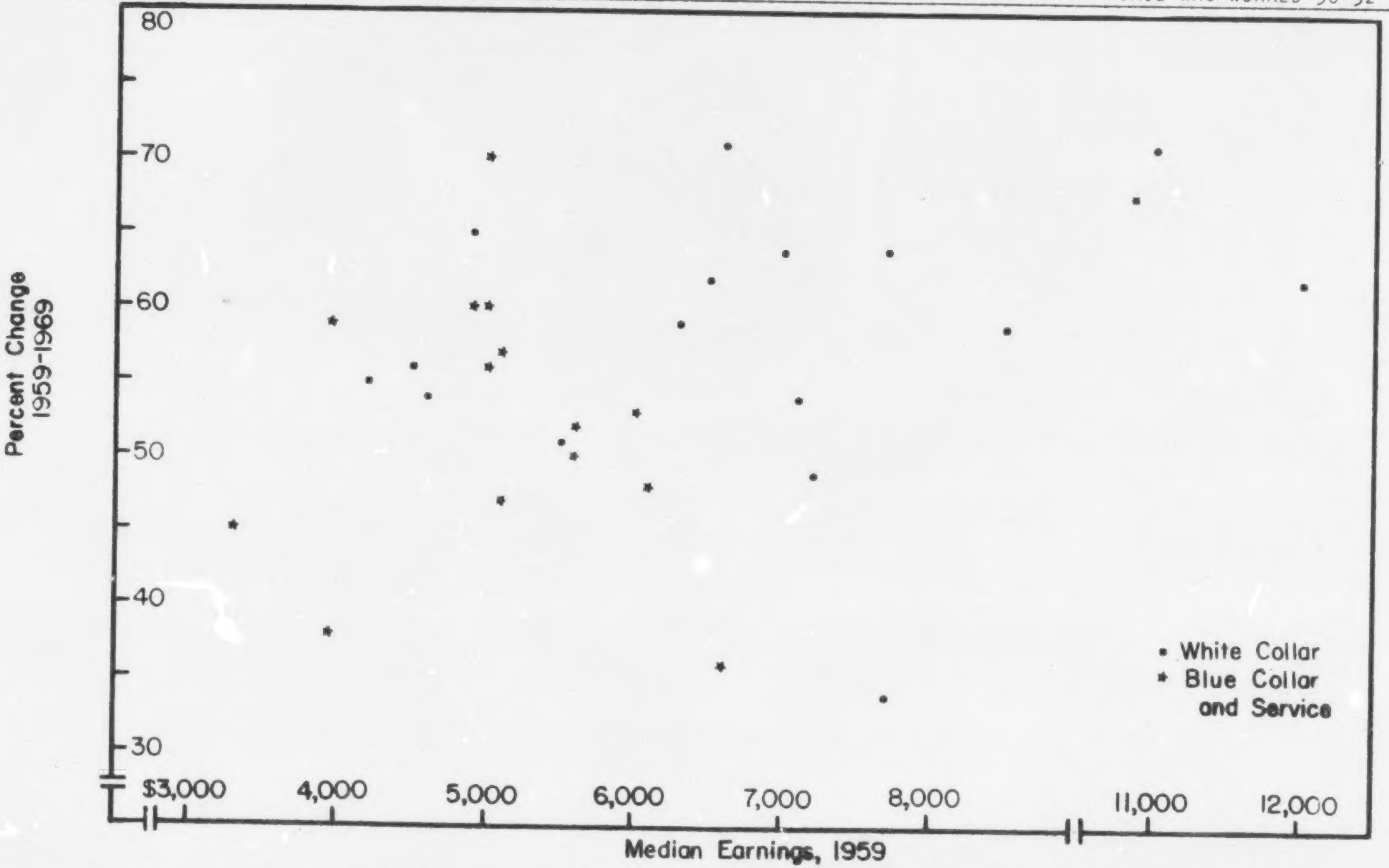
**This data is also significant because of its failure to support the view that unskilled jobs are being priced out by the withdrawal of labor in the face of an attractive Welfare alternative. The period covered is one in which AFDC benefit levels were rising particularly rapidly.

***The 1947-73 period is analytically convenient for a number of reasons. Nineteen forty-seven was the first full year after the war without price controls. Nineteen seventy-three was the most recent year without a recession at the time of this writing. Real per capita income almost exactly doubled between 1947 and 1973. During that time the Consumer Price Index also virtually exactly doubled. Furthermore, the length of the period--26 years--is almost identical to the 27 years remaining between 1973 and the end of the century, so that assumptions of continued trends lead to proejctions of about the same percentage changes to the year 2000.

****The area to the left of any point on the proportional growth curve is equal to the area to the left of the point at half that income level on the initial income distribution.

FIGURE 1

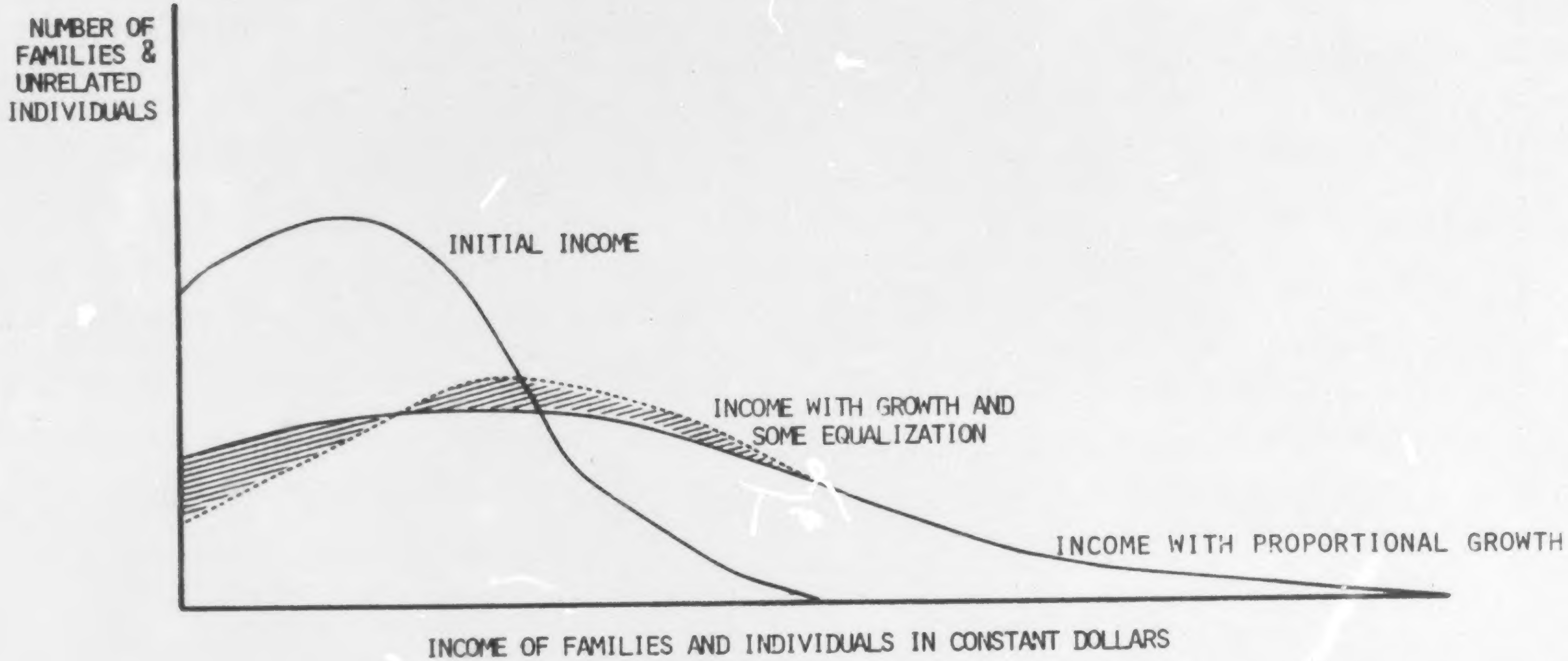
RELATIONSHIP BETWEEN PERCENTAGE CHANGE IN MEDIAN EARNINGS FROM 1959 TO 1969 AND 1959 LEVEL OF EARNINGS ACROSS SELECTED OCCUPATIONS, MALE WORKERS IN THE EXPERIENCED CIVILIAN LABOR FORCE WHO WORKED 50-52 WEEKS



SOURCE: U.S. Bureau of the Census. U.S. Census of the Population: 1960. Subject Reports. Occupational Characteristics. Final Report PC(2)-7A, Table 30. Washington, D.C.: U.S. Government Printing Office, 1963 and U.S. Census of the Population: 1970. Subject Reports. Occupational Characteristics. Final Report PC(2)-7A, Table 15, U.S. Government Printing Office, 1973.

FIGURE 2

THE CHANGING SHAPE OF THE DISTRIBUTION OF INCOME



distribution after incomes have risen most rapidly at the lowest income levels. Families which would otherwise be in the left hand shaded area move into the shaded area to the right when the distribution becomes more equal.

Many explanations have been offered for the changes which have taken place in the shape of the income distribution. The New Deal and the growth of union membership and strength in the 1930s appear to have had a significant impact, but it was superimposed on the underlying trend and does not explain the changes which occurred earlier. The curtailment of immigration in 1925 also undoubtedly had an important impact but it too postdated substantial changes. Assimilation of immigrant groups may account for some of the earlier change. But other factors stand out as candidates for the explanation of the longer term trend. The rise in education has been a major force producing greater equality in the distribution of income. The great movements from farm to city and the declines in nonfarm self-employment also were associated with disproportionately large increases in income at the lowest levels and substantial national productivity growth.*

The most powerful forces affecting the distribution of income during the last hundred years appear to be those most directly associated with the process of economic development. Kuznets has observed that developing nations tend to go through stages in which at first the distribution of income becomes more unequal and then it becomes more equal. Developments since the Civil War appear to largely reflect the latter phase. To the extent this represents a restoration of a level of equality achieved at an earlier time in our history, changes in the shape of the income distribution would be expected to continue to taper off but not halt entirely. But during the span of that history too many other changes have taken place to warrant such a simple assumption. While most changes in the shape of the income distribution were associated with forces affecting the distribution of wages there has been a long standing acceptance of the wage distribution produced in the market place. If future policies attempted to change that pattern or to offset its outcomes more extensively than is done through the present tax structure the future trends could be very different. Major departures could also be produced by new patterns of leisure which develop with increasing affluence. Therefore we must treat the following analysis of the effects of continuation of past patterns as a baseline from which the implications of future departures can be guaged.

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*For evidence on these points see Barry Chiswick and Jacob Mincer, "Time-Series Changes in Personal Income Inequality in the United States from 1939, with Projections to 1985," Journal of Political Economy, 80, No. 3, Part II (May/June, 1972), pp. 534-566 and Edward Denison, Accounting for U.S. Economic Growth, 1929-1969, Washington: The Brookings Institution, 1974.

The Impact of Economic Growth

While economic growth has done little to change the shape of the income distribution in recent years, it has had an important effect on poverty by shifting the entire distribution upward over time. Several authors have attempted to estimate the relationship of economic growth to poverty for the economy and for population subgroups. Galloway, Aaron and Hollister and Palmer, holding the unemployment rate constant each estimated that increases in median income are associated with sizeable reductions in the percentage classified in poverty. Aaron found that the nonwhite poverty rate was less sensitive to median income than the white rate between 1947 and 1963 with the unemployment rate held constant.[*] Thurow found no difference between white families and nonwhite families in the response of income to GNP per worker between 1947 and 1964, holding constant cyclical conditions.[**] Without holding cyclical forces constant, Anderson found that median income of nonwhite families responded more rapidly to the growth of median income of all families than did income of whites between 1947 and 1960.[***]

The work of Anderson, Aaron, Lampman and others clearly indicates that the incomes of the aged, the disabled and of nonfarm female headed households do not respond as readily to increases in real income levels in the economy.[****] Aaron finds a lack of a strong response for white nonfarm female headed families as well as for nonwhites. The lack of response to economic growth follows from the very limited attachment to the labor force which these groups have, and from the limited opportunities they have to change labor force status, isolating them from the benefits of rising real wages.

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[*] Lowell Galloway, "The Foundations of the War on Poverty," American Economic Review, 55, No. 1 (March, 1965) pp. 122-131, Henry Aaron, "The Foundations of the 'War on Poverty' Reexamined," American Economic Review, 57, No. 5 (December, 1967), pp. 1229-1240, reply by Galloway (pp. 1241-1249), Robinson Hollister and John Palmer, "The Impact of Inflation on the Poor and the Implicit Tax of Inflation and Unemployment: Some Policy Implications," Kenneth Boulding and Martin Pfaff, editors, Redistribution to the Rich and the Poor, Belmont, Calif: Wadsworth Publishing Company, Inc., 1972, pp. 240-373.

[**] Lester Thurow, Poverty and Discrimination, Washington: The Brookings Institution, 1969. Also see "The Effects of Public Policy Instruments on Black and White Income Equalization," Kenneth Boulding and Martin Pfaff, editors, Redistribution to the Rich and the Poor, Belmont, Calif: Wadsworth Publishing Company, Inc. 1972, pp. 270-284.

[***] W. H. Locke Anderson, "Trickling Down: The Relationship Between Economic Growth and the Extent of Poverty Among American Families," Quarterly Journal of Economics, 78, No. 4 (November, 1964), pp. 511-524.

[****] Robert Lampman, Ends and Means of Reducing Income Poverty, Chicago: Markham Publishing Company, 1971.

In the long run farm poverty has been responsive to economic growth, but much of the response has occurred slowly through migration. Anderson's analysis suggests that while rising incomes make a large difference to farm families, incomes fall unless the median income of all families rises at least 2 percent per year. Poverty remains a serious problem in some isolated areas such as the rural South.[*]

Cyclical Patterns - The Great Depression

Important evidence on the effects of business fluctuations comes from observations during the extreme conditions of the Great Depression. The share of the lowest fifth of consumer units was at the same level in 1935-36 as in 1941 and well above the 1929 level. The absence of a decline may reflect a movement into the upper part of the lowest group of consumer units with normally higher income levels. Incomes of families and individuals in 1973 dollars moved as follows:[**]

	1929	1935-36	1941
Under $1,850	15.9%	19.5%	15.1%
$1,850 - $3,700	25.6	29.2	19.9
Under $3,700	41.5%	48.7%	35.0%

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[*] "Combating Poverty in a Prosperous Economy," Chapter 5 of the Report of the Council of Economic Advisors, 1969 in U.S. President, Economic Report of the President, 1969, Washington: 1969.

[**] U.S. Bureau of the Census, The Statistical History of the United States, Stamford: Fairfield Publishers, Inc., Series G58 and G59. This series is taken from the same source as the data for the period in Table 1. Economic growth has also influenced poverty through associated demographic changes, particularly declining birth rates and the increasing tendency for adults to live without other adults among the young, the aged and female headed households. Some of these issues are discussed in Chapter V.

An extensive attempt to analyze changes in income inequality during the great depression was made by Mendershausen. Data were collected on incomes of identical families in 33 cities in 1929 and 1933. Mendershausen found that 1) the higher income cities had the smallest declines, 2) the highest 40 and 50 percent of income recipients increased their proportion of income in all cities and 3) the relative difference between the income of the lowest third of the population and the average income rose. These findings indicate a general pattern of greater sensitivity of low income populations to fluctuations in economic activity.

A closer look at data reveal that the percentage declines were greatest for both the highest income group, whose incomes depended relatively more on non-wage sources, and for the moderately low income population. The author was surprised to find that "the recipients of very low 1929 incomes experienced an actual rise in mean income" (p. 107). He could offer no explanation but speculated that part of the cause could be the reduction of labor force entry of young people who represented a high proportion of those with very low incomes.*

What seemed to be a sharp gain in relative performance for the lowest income group during the depression may be the result of the limitation of the sample to only those persons living in cities at the end of the period. One of the ways in which people adjusted to the depression was to return to the farms in large numbers. It is likely that those who had close enough attachments to return were among the least skilled and the most recent migrants and could be expected to be heavily represented in the lowest income group. Changes in the farm population were as follows:[*]

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*Hörstt Mendershausen, Changes in Income Distribution During the Great Depression, Studies in Income and Wealth, Vol. 7, New York: National Bureau of Economic Research, 1946.

	Farm Population (millions)	Change from Previous 5 Years (millions)
1920	32.0	- .8
1925	31.2	- .8
1930	30.5	- .7
1935	32.2	+ 1.7
1940	30.5	- 1.7

The gain in the farm population between 1930 and 1935 was 1.7 million, a sizeable number both absolutely and in comparison with the numbers of very poor in major cities. If we measure the effects of the depression as the difference from what would have been expected the earlier magnitudes indicate that the number of persons who either deferred migration to the cities or returned from them between 1930 and 1935 was 2 1/2 million.

A great many of the kinds of persons who might have returned to farms in an earlier era no longer have the family ties to provide access to land and homes. There are fewer and fewer small farms and these are increasingly operated as franchises dominated by large business rather than as independent proprietorships. As a result the return to the farm will not be available as the outlet it once was in times of severe economic hardship. The limited access to farm living arrangements also raises the possibility that any extensive migration to farms that does occur in times of depression may more readily take the forms of squatting and communal living in the future.

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[*] U.S. Bureau of the Census, Statistical Abstract of the United States, 1963, Table 844.

Cyclical Patterns After World War II

Studies examining the effects of cyclical forces have begun to produce a clear pattern. Schultz found no effects of the unemployment rate on variations in the equality of the overall distribution of income over time.[*] Hollister and Palmer found no significant effect of the unemployment rate on the percentage of persons in poverty when median income was held constant.[**] Galloway found a significant effect of unemployment on the percentage of families in poverty for the period 1947-1963. Aaron examined the very limited time period 1959-64 but considered an improved specification of the equation and variation among population subgroups. He found no statistically significant effects.[***]

When the incomes of the poor rather than the percentage poor are examined significant effects on poverty are consistently found. Metcalf and Mirer, examining fluctuations in income of families at the lowest levels relative to fluctuations of middle income families, showed a consistent tendency for low income families to be more adversely affected by poor economic conditions. Mirer determined that adverse effects tended to occur at the income ranges of the working poor while at the very lowest levels where income maintenance and pensions are the main sources of income there was little effect of economic fluctuations.[*]

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[*] "Secular Equalization...," Op. Cit.

[**] Robinson Hollister and John Palmer, "The Impact of Inflation on the Poor and the Implicit Tax of Inflation and Unemployment: Some Policy Implications," Kenneth Boulding and Martin Pfaff, editors, Redistribution to the Rich and the Poor, Belmont, Calif.: Wadsworth Publishing Company, 1972.

[***] Op. Cit.

Yap found that when labor market fluctuations were measured by unemployment, employment changes, and the ratio of job vacancies to unemployment, the incomes of the poor responded far more to economic conditions than the incomes of the nonpoor.[**] Yap's findings apply to individual income and do not take into account adjustments in labor force participation of other family members. Gramlich found based on 1971 data that a one percent increase in the unemployment rate was associated with a decline in income of male-headed families at the poverty line of nearly 3 percent when all of these factors are taken into account, even after the offsetting effects of transfer payments.[***]

Further evidence on the cyclical sensitivity of the incomes of the poor comes from studies of movements in the incomes of blacks relative to whites. Ashenfelter found for both males and females that the ratio of median earnings of blacks to median earnings of whites varies systematically with the national unemployment rate.[****] Thurow showed that a one percentage point increase in the unemployment rate reduced the average income of nonwhite families by one percent more than for white families.*

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[*] Charles Metcalf, *An Econometric Model of the Income Distribution* Chicago: Markham Publishing Company, 1972 and Thad Mirer, "The Effects of Macroeconomic Fluctuations on the Distribution of Income," *Review of Income and Wealth*, 4, No. 19 (1973) pp. 385-405. Mirer also found the pattern was the reverse of the usual one. See "The Distributional Impact of the 1970 Recession" *The Review of Economics and Statistics*, 55, No. 2 (May, 1973) pp. 214-224.

[**] Lorene Yap, "Factors Affecting Income and Employment," Paper No. 715-3, Washington: The Urban Institute, 1972. Most of the variation in income was attributable to fluctuations in the number of weeks worked rather than the hourly wage or the number of hours worked per week.

[***] Edward Gramlich, "The Distributional Effects of Higher Unemployment," *Brookings Papers on Economic Activity*, 2 (1974), pp. 293-336.

[****] Orley Ashenfelter, "Changes in Labor Market Discrimination Over Time," *Journal of Human Resources*, 5, No. 4 (Fall, 1970), pp. 403-430.

Inflation Effects

It is only recently that quantitative estimates of the effects of inflation on the distribution of income in the United States have begun to appear. Schultz and McCall found no effect of inflation on the equality of the income distribution. Hollister and Palmer found that a high rate of inflation was associated with a lower percentage of the population below the Orshansky poverty line.**

The state of the analysis of population subgroups does not permit reliable conclusions as to differential effects. However, the aggregate evidence and the diversity of estimates for subgroups do imply that the effects of inflation on the poor are not vastly different from those on the nonpoor. Much of the inequity of inflation is probably the result of differences among individuals _within_ both poor and nonpoor groups which none of these studies measure. The problems which this inequality creates may be greater for the poor who have less flexibility to adapt with fewer resources.

McCall found that inflation had no effect on the equality of the distribution of income of whites. It did tend to produce less equality among nonwhites. However, Metcalf measured relative income position by the income that delineates families or individuals with the lowest 10 percent of income as a ratio to the median. His estimates indicate the effect on income only relative to other consumer units in the same demographic group. Metcalf found that there was a strong adverse effect of inflation on the income of the poorest female-headed families relative to all female-headed families. The effect was positive for male-headed families in which the female was present but not in the labor force. The within group relative effect of inflation was adverse for individuals who were earning incomes but beneficial to nonearners. This is the reverse of the pattern by earning status for families.*

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*_Op. cit._

**_Op. cit._

Another kind of evidence comes from efforts to construct separate price indexes for the poor. Palmer found that when price indexes were developed which give recognition to the larger proportion of income which the poor devote to necessities, because of a tendency of prices of necessities to rise more rapidly than the prices of other commodities there has been a slightly greater increase in costs to the poor than to the nonpoor. What is significant is how small the difference is between his series and the Consumer Price Index. Palmer and others subsequently updated the estimates and continued to find little difference. Over the seven year period 1967-74, even with the unusually rapid rise in food prices, the price index for the poor rose a total of only 2 percent more than the index for the general population.**

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[*] Op. cit.

[**] John Palmer, Inflation, Unemployment and Poverty, Lexington, Mass.: Lexington Books, 1973, Robinson Hollister and John Palmer, op. cit. and Office of Income Security Policy, "The Impacts of Inflation and Higher Unemployment: With Emphasis on the Lower Income Population," Technical Analysis Paper No. 2, Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health, Education and Welfare, October, 1974.

Combined Effects

Historically high rates of inflation have tended to occur at the same time as relatively low unemployment rates while high unemployment rates have tended to be associated with relatively low inflation. An inverse relationship between inflation and unemployment has been widely used as a behavioral statement about the nature of the economy rather than simply as a description of past events. This "Phillips Curve" formulation tells what will happen to both inflation and unemployment if actions such as changes in the supply of money and changes in Federal spending and taxation are taken.

Several studies have attempted to assess the implications for the poor of the fact that decisions affecting inflation and unemployment are not independent of each other. Among these are works of Thurow, Metcalf, Palmer* and Mirer.** Palmer dwells particularly on the Phillips Curve question. In all cases the conclusion which emerges is that a high volume of economic activity with its inflationary effects is far more desirable for the poor than low activity. The effects of inflation are far smaller than the effects of unemployment.

The economic gyrations of the 1970s brought forth a new concern--that of "stagflation." With an acceleration in the rate of inflation it would be possible to have high levels of inflation and unemployment simultaneously. Furthermore, some external shock to the system such as the oil price rise could produce sharp increases in inflation and unemployment concurrently.* From this experience it has become clear that there still exists a range within which we can prevent a continuing rate of inflation by accepting a period of unusually long and deep unemployment. Such a policy creates serious inequities of its own and is only acceptable as a one time step for preventing a high and continuing rate of inflation.

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*Op. cit. Also see Charles Metcalf, "Fiscal Policy and the Poor: The Case of Vietnam," Public Policy, 18, No. 2 (Winter, 1970), pp. 187-209.

**"The Distributional Impact...," op. cit.

Program Benefits

Since public policies and programs have a significant impact on the incomes of the poor it is necessary to examine the way in which they respond to changes in economic conditions. Systematic work on this question has only recently begun to appear. Metcalf examined the effects of economic conditions on government transfer payments and the effects of the transfer payments on income distribution in a sophisticated econometric model. The results are too tentative to be relied on at this time.** Gramlich provides estimates that are particularly interesting. For each one dollar decline in earned income, transfer payments increased by 56 cents for families at the poverty line headed by females in 1971. For male-headed families at the poverty line the increase was only 31 cents.*** Unemployment insurance replaced 18 cents of the earnings loss for females and only 7 cents for males. Replacement is low for several reasons: some workers are not covered, some exhaust benefits, income losses due to reduced wages, hours and labor force participation are not made up by unemployment insurance and unemployment insurance replaces only a portion of the earnings loss due to unemployment. Since the data are for 1971 they include the effects of extended unemployment insurance which covered many workers who otherwise would have exhausted their benefits. The data contain some downward bias due to underreporting, however.

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*In Office of Income Security Policy," op. cit., it is argued that the "working poor" are most adversely affected by both inflation and unemployment and therefore fared worse in the stagflation. Such a finding, if correct, would imply that they are less affected by the choices made between policies which shift the economy toward more of one and less of the other. The more fundamental point, however, is that the effects of unemployment continue to strongly dominate.

**Op. cit.

***Op. cit.

Gaps in Research

In spite of the impressive amount of quantitative research in this area there are a number of significant gaps which remain. Relatively few empirical studies have considered the effects of economic growth, business cycles and inflation all together. In nearly all cases the studies which are most complete in this regard used data ending between 1963 and 1966 (Aaron, Anderson, Ashenfelter, McCall, Metcalf, Schultz, Thurow). Very little work has been done to consider the effect of economic conditions on program benefits at the same time.

Further Evidence and Policy Discussion

Economic Growth

The statistical analysis confirms that the growth of real income has a powerful effect on poverty. Between 1947 and 1973 real median family income doubled. On the average a $1,000 increase in median income was associated with a reduction in poverty as measured by the Orshansky line by 3.2 percentage points for families and 3.8 percentage points for individuals. The number of percentage points change was slightly greater for individuals because of the greater percentage of individuals in poverty, but the percentage decline in the number poor was far greater for families.

Table 4 summarizes the percentage changes in poverty and related variables for a one percent increase in median family income. The complete equations are presented in the Appendix. A one percent increase in income has been associated with a 1 1/2 percent decrease in the percent poor for families but a decrease of only 3/4 of a percent for individuals.* At the same time as the distribution of income has moved upward it has done so in a way that allows the poor to share in the gains of economic growth. The poor have tended to improve relative to the nonpoor as well. A one percent increase in the median income of all families was associated with a 1 1/4 percent increase in the average income of the poorest fifth of families.

The more than doubling of social welfare expenditures as a percentage of Gross National Product is explained by the fact that social spending

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*In Table 2 we noted that mean incomes have been rising far more rapidly for individuals than for families. The paradox is explained by the fact that while the mean income of the poorest fifth of families was about equal to the poverty line for a nonfarm family of four, the mean income of the poorest fifth of individuals was only three-fifths of the poverty line for individuals.

TABLE 4

PERCENTAGE CHANGE IN SELECTED VARIABLES FOR A ONE PERCENT INCREASE IN MEDIAN FAMILY INCOME

Variable	Estimate I	Estimate II
Percent of families in poverty	- 1.61	- 1.60
Percent of individuals in poverty	- .75	- .74
Mean income of the poorest fifth of families	1.26	1.26
Average monthly AFDC payment per family	.76	.74
Average weekly unemployment insurance benefit	.70	.70
Minimum wage	.83	.96
Social welfare expenditures as a percent of GNP	1.11	1.07

I. Linear, elasticities calculated at means
II. Logarithmic-constant elasticity

Source: Appendix

was directly related to the growth of income. A one percent increase in income was associated with a 1.1 percent increase in social welfare expenditures as a percent of GNP.

It is clear that a successful policy of stimulating economic growth would have enormous consequences for poverty, for several reasons. Real income gains could be expected to benefit the poor as readily as the nonpoor or even more so and to lead to further developments in social welfare policy. A rapidly growing economy is characterized by low unemployment rates which particularly tend to benefit the poor. Furthermore, incomes of low income individuals may not simply fluctuate around a trend between lower and higher levels of income as the unemployment rate rises and falls. The strength of the trend itself may depend on how tight the labor market is and the ability to maintain gains in skills, occupation status, etc. from one period of prosperity to the next may depend on the length of time for which the initial gains are held.*

In order to understand the effects of economic growth it is necessary to make a distinction between its effects on poverty and its effects on racial inequality. The evidence that growth in productivity raises incomes for blacks by the same percentage as whites** and the evidence presented later that second generation Spanish-Americans have significantly risen above the low education and occupation status of their parents is convincing proof of the effect of economic growth on poverty. As long as the standard of poverty rises more slowly than incomes generally there will continue to be reductions in poverty among minorities over time, and the rate of poverty reduction can be expected to be substantial. However, because of their relatively low income position, minorities will tend to stay in poverty longer.

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*For one test of such an effect see Harold Guthrie. "The Prospects of Equality of Income Between White and Black Families Under Varying Rates of Unemployment," Journal of Human Resources, 5, No. 4 (Fall, 1970), pp. 431-446.

**Thurow, Poverty and Discrimination, op. cit.

The same numbers can be looked at very differently. If incomes of blacks only rise at the same rate as those of whites then black incomes will continue to be about three-fifths of white incomes. Unless there is strong relative gain the problem of racial inequality will continue to be serious for a long time even if the problem of poverty does not. If minorities do show a relative gain, on the other hand, it will also bring about a more rapid reduction in poverty.

Policies to increase the growth rate in the past have largely sought to stimulate the demand for capital goods through such measures as accelerated depreciation allowances and investment tax credits. The climate for capital spending has changed and the emphasis of public policy will be very different in the future.

In spite of the negative short run impact of the oil price increase of 1973, the energy crisis created a strong potential demand for capital spending on new energy technologies and sources. The rise in energy costs opened prospects for large scale investment in mass transportation. This came at a time of lagging electric generating capacity and strong demand for replacing environmentally obsolete factories. To these pressures are added the replacement demand for the housing stock and the infrastructures of cities built during the waves of immigration early in the century.*

Concern as to whether it will be possible to finance these ventures appears to reflect short run factors growing out of the unusual events of 1973-1975. While the oil price rise did siphon off capital, the implicit tax of higher oil prices acted as an increase in the rate of saving which, as petrodollars are recycled, should provide even greater financing for capital goods in the United States.

The more significant issue in the long term is the ability with which it will be possible to manage the economy in the complex environment which has evolved. The demand for electrical generating capacity will not be effective if rate structures do not allow inclusion of sufficient capital costs or if projects are endlessly delayed on environmental grounds. Environmentally induced spending will not occur if standards are discarded in any crisis. Housing will not be built if restrictive practices and corruption make it too costly and mass transportation will not advance without cooperative efforts among governmental jurisdictions for financing and right of way. The fundamental danger is that atomistic regulation and parochial interests will prevent a period of rapid innovation and development. In this situation the policies required to deal with economic growth are not the stimulation of investment demand without regard to the social utility of the products or the effects of impediments on cost. Instead they are the same policies required to effectively deal with the pressing public policy issues of the day.

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*Subsequently it will be argued that declines in populations of large older central cities will reduce the need for replacement construction in those cities. However, national investment demand will nevertheless be increased by the need to replace facilities for the same populations in other locations.

Poverty programs and policies can be viewed as alternatives to economic growth. If growth will not produce a rapid enough reduction in poverty then public actions could be used to bring closer the day when an acceptable level of poverty reduction could be achieved. In this vein there have been numerous efforts to identify population groups who will least benefit from economic growth and to provide them with more immediate income maintenance and services. (Population groups are examined more closely in the next chapter.) Poverty policies can also be viewed as complements to economic growth. The goal of such a strategy would be to undertake those programs and policies which enable the forces of economic growth to exert an even more powerful influence than they do now.

Policies pursued in the areas of education, on-the-job training, and the like have had as their goals improvement in earnings capacity and labor force attachment which are at the heart of participation in the gains from economic growth. More systematic efforts to develop policies and choose among them with emphasis on their ability to increase the impact of economic growth could provide a useful basis for the formulation of priorities.

An important area where a policy of increasing the effects of economic growth on low income populations can have a large impact is in the distribution of the gains from economic growth. Elsewhere we have noted that three-fifths of the growth of real per capita income can be attributed to general sources of productivity growth such as advances in knowledge and economies of scale. These sources are gains to society and not payments to those who provide direct labor and capital services. Since the structure of the economy does not permit productivity advances from these sources to benefit consumers in the form of a falling price level they can only be shared by rising real wage rates. As a result groups such as the aged and disabled do not receive an equitable share of the saving from economic progress. A progress-sharing policy would increase benefits for these groups by a share of the long term rate of growth of real wages to distribute the gains from general sources of economic growth. The implications of such a policy are discussed more fully in a later chapter.

The principle of progress sharing requires us to look more carefully at the issue of "wage" or "income indexing." Benefits under public programs for persons who do not participate in the labor force can be regularly revised to take account of economic growth instead of providing the irregular increases they do now. This principle could be readily applied to AFDC and SSI. The principle of progress sharing also implies that income limits to which tax rates for programs such as Social Security are applied be increased in some relationship to the rise in real incomes as a means of financing real benefit growth.

Another area of policy response consistent with the emphasis on increasing the ability of economic growth to reduce poverty arises with regard to the issue of adjustments to declines in the rate of population growth. Because population will be growing more slowly than in the past some areas will experience significant population declines at the same time as others grow. But manpower efforts as they have evolved through the Manpower Revenue Sharing approach have concentrated on local programs and coordination of services within localities.

The declines in demand for labor in some areas and the simultaneous growth in others indicate that in the future manpower programs will have to provide services to individual workers on an inter-regional basis. One locality will not have the incentive to train workers for jobs in another and persons who might migrate if they could receive training in a new location will not know about opportunities there. This problem will be most serious among the lowest education groups who have the least tendency to migrate across regions.

A set of manpower programs on a national scale will be necessary to provide information on availability of jobs and training opportunities, to coordinate training activities across geographic subdivisions and to coordinate these activities with other manpower efforts.

Inflation

The evidence developed in the Appendix on the effects of inflation is consistent with earlier studies. During the period 1947 to 1973 there was no statistically significant effect of inflation on either the percentage of families in poverty, the percentage of individuals in poverty or the average income of the poorest fifth of families. Furthermore, the rate of change in the Consumer Price Index did not significantly affect the average benefit under AFDC or unemployment insurance or the minimum wage and had only a small effect on the share of GNP devoted to social welfare expenditures.

Neither this nor the evidence cited earlier that inflation does not change the shape of the overall distribution of income should be taken to mean that inflation has no effect on the way income is distributed. The effects of inflation are uneven and redistribution of purchasing power among individuals may be large. In examining the redistribution it is useful to view inflation as acting like a lottery. The major effect is to change the purchasing power individuals expect to receive rather than only to increase risk or uncertainty. The term purchasing power is used here to represent both the effects of inflation on money income and on variation in the prices facing different individuals.*

The statistical properties of distributions provide important insights into the way in which inflation operates.** Assume that the variance of the distribution of income among individuals is unaffected by inflation. Further assume that each individual faces a set of opportunities to obtain real income which is normally distributed.*** According to the Central Limit Theorem the distribution of income across individuals would also be normally distributed. Under these conditions we can ask what would happen if the effect of inflation was to increase each individual's variance of opportunities to obtain income. The expected value of income for an individual has a variance which depends on the variance of the distribution of opportunities to obtain income. As a result the variance of individual expected values of income would also increase. But the variance of the distribution of income *across* individuals depends on the variance of the expected values of income of those individuals. Consequently, the variance of the distribution of income across individuals also would have to increase. This is contrary to the first assumption, however.

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*Some persons have made a distinction between anticipated and unanticipated inflation. The latter is considered more undesirable because it affords less opportunity to adjust consumption, labor market and other behavior patterns. The more fundamental fact is the redistribution of income itself; the degree of anticipation enters secondarily as a determinant of the quantitative impact in the short run.

**I am grateful to Morris Olitsky for discussions on this section.

***The conclusions presented can be derived from other distributional assumptions.

The implication is that inflation cannot operate solely to increase the dispersion of opportunities to obtain income. It must also displace the distribution of opportunities facing the individual.[*] *This shift in the position of the individual's distribution of opportunities and expected income level represents a real gain or loss.*[**]

In order to quantify the effects of inflation suggested it would be necessary to examine information on the distribution among individuals of year-to-year changes in real income during periods of varying rates of inflation. This would require taking into account the effects of an inflationary economy on the distribution of money income changes as a result of differences among individuals in the price changes they face, as a result of different consumption patterns, geographic differences in inflation rates and the like. In order to measure the effects so as to determine the severity of the consequences of inflation apart from other influences we would want to hold constant the effects of changes in the unemployment rate as well. We need to know not only what the strength of these effects is but also how long lasting they are.

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[*] Individuals will be affected differently by inflation depending on consumption preferences, legal obligations, asset holdings and other factors. The analysis assumes that most of the variation from these as well as random influences can be treated as nonsystematic while variation associated with easily identifiable group differences is small relative to the total variation in inflation effects.

[**] We can represent the effect of changes in the cost of living on individual income through an "inflation elasticity of money income" for each individual. If real incomes were unaffected in the aggregate by changes in the rate of inflation, then the (weighted) average inflation elasticity of money income would be equal to one, since the mean money income of all individuals would increase by the same percentage as the average change in the price level. This implies that losses attributable to inflation for some individuals must be identically offset by gains of other individuals.

While some individuals in each income range may lose, a dollar loss of real purchasing power may be particularly serious for the poor. There are many reasons this may be so. The poor have less assets to fall back on, have less access to credit and in other ways have less flexibility in adjusting consumption patterns (e.g., by moving to a lower rent apartment, eating lower quality food, using clothing longer) when they are already consuming at very low levels. Limited incomes make it exceedingly difficult to stock up on products at unusually low prices or whose prices are expected to rise rapidly in the future. Furthermore, there may be great differences in the efficiency with which the poor act as consumers. Persons dealing with limited education, less intelligence, poorer health, effects of aging, language and cultural barriers and racial and geographic isolation may have limited ability to compare prices, anticipate changes, conduct transactions or adapt to the use of substitute commodities. These factors could make the real cost of inflation particularly great. Some of these factors will show up as higher prices to the poor in a properly measured real income measure but others would appear as a lower level of well-being from a given level of real income.*

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*Similar effects may arise in labor markets with the poor less able to shift jobs when wages do not keep up with inflation.

While losses among some individuals are offset by gains among others the effect of the additional change itself is undesirable when the population on average is risk averse. Any tendency for those least able to deal with their environment to be affected most would lead to a further decline in utility when the rate of inflation increases.

The evidence presented comes from a period when the average rate of inflation was 3 percent. Subsequent inflation has been much higher. Different persons may be gainers or losers under different rates of inflation depending on its source and nature and we know very little about these effects. It is likely, however, if high rates of inflation continue the value the public places on reducing the lottery it creates will have to be more extensively taken into account in balancing policy goals.

Where inflation adversely affects identifiable groups it becomes possible to modify programs to deal with it. The policies of automatically adjusting benefits under Social Security, Supplementary Security Income and Food Stamps for increases in the Consumer Price Index have been employed in the past. The effects of those policies largely came after the period of the statistical analyses discussed with the result that the effects of inflation on identifiable subgroups are even smaller at the present time. There are several programs and policies which have not yet been "indexed" for price changes, most notably benefits under Aid to Families with Dependent Children and the minimum income below which no personal income taxes are paid. Private pensions are subject to special problems which are discussed later.

Indexing of transfer payments is valuable to make benefit levels reflect actions which take place in labor and product markets. However, use of indexing in wage determination is not recommended. Real wage rates of low income earners have not lagged behind those of other workers, and, indexing in the arena where wage gains are made can increase the rate of inflation. This is not a serious problem for indexation of transfer payments since they passively follow the outcomes of an essentially independent bargaining process.

Business Fluctuations

The tests of whether variations in the unemployment rate have a significant effect on the poor yield mixed results when poverty is measured by the percentage of families or individuals below a poverty line (see Appendix). Such a measure need not accurately reflect broad income changes since it is most heavily influenced by circumstances of persons nearest to the poverty line. A more useful measure for gauging the effects of economic fluctuations is the average income of the poorest fifth of families. When this measure is used the unemployment rate is found to have a significant effect on the poor. An increase in the unemployment rate from 4 to 7 percent is associated with a decline in income of the poorest families of about 6 percent.

The unemployment rate exerts a small but significant effect on the average benefit rate under unemployment insurance. A one percentage point increase in unemployment is associated with a 5 percent increase in benefits. This may reflect a willingness to allocate more resources to the unemployed at times when unemployment is considered most involuntary. The unemployment rate is also positively related to social welfare expenditures as a percent of GNP. The effects here are larger than would be accounted for by increases in unemployment insurance payments alone and would include effects such as increased public assistance claims and accelerated retirement.

The evidence presented here and cited earlier indicate that in the aggregate the rate of unemployment does not have a significant impact on the number of poor and its impact on the incomes of the poor is moderate. The impact of unemployment on the poor is more serious than these figures indicate, however.

The unemployment rate defines the proportion of persons out of work at a single moment. The number of persons who experience unemployment during a period of time is a good deal higher. In 1958, for example, while 6.8 percent were unemployed based on the average at the time of the monthly surveys, 17.9 percent of persons with work experience during the year had some unemployment and 36 percent of those were unemployed more than once.

High unemployment is particularly serious because the burden is distributed unevenly across the population. Only a minority of workers are directly affected by unemployment at all. The unemployment rate tends to rise both because more persons are out of work and because the average unemployed person is out of work longer. These factors are about equally important. In 1958 about 1/3 of all persons unemployed at a point in time had already been unemployed 15 weeks or longer; this was nearly double the percentage in subsequent years of 4 percent unemployment. Long term unemployment is better determined by examining its impact over the entire year. Of those persons who were out of work at all in 1958, 40 percent were unemployed for at least 15 weeks and a half of those were out of work for more than six months. The different between a 4 and 7 percent unemployment rate is nearly a doubling of the numbers.*

The effects of unemployment are exacerbated by its tendency to affect those who are most disadvantaged already. The unemployment rate is greatest for those in low wage jobs, with the least education and training, for the young and the old and for members of minority groups. Smith and Holt find, for example, that the black unemployment rate is approximately double the white rate regardless of the aggregate level of economic activity. A decline in the level of business activity increases the chance of unemployment about twice as much for blacks as for whites.**

One approach to dealing with unemployment is to cushion its impact--present programs do so only incompletely. Recent extensions of unemployment insurance coverage to broader populations and for longer periods of time have been an important step in this direction. Payments of this kind help to stimulate the economy and reduce the level of unemployment.

The major approach to reducing the rate of unemployment has been through increases in the money supply and tax cuts. These are carried out in an attempt to balance the goals of low unemployment and price stability. There has been professional disagreement over whether a stable enough relationship exists between inflation and unemployment (the Phillips Curve) to provide a firm basis for policy. The evidence is stronger that a trade-off exists in the short run than in the long run[*] (for this purpose the short run may be up to three or four years). There is also evidence that wage rates tend to increase when the unemployment rate is falling even if they do not fall when it is rising.[**] So there does seem to be an important policy choice as to how far to stimulate the economy to reduce unemployment. But neither alternative is particularly appealing.[***] If we really believed that inflation had little effect on the distribution of income the implication would clearly be to emphasize unemployment reduction. Policy analysts have consistently avoided this conclusion in spite of the studies cited, and rightly so, our discussion of the way inflation operates would suggest.

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*Data are from U.S. President, Manpower Report of the President, 1970, Washington: U.S. Government Printing Office, Statistical Appendix. Also see Annual Report of the Council of Economic Advisors, 1975, Washington: U.S. Government Printing Office, 1975.

**Ralph Smith and Charles Holt, "A Job Search - Turnover Analysis of the Black-White Unemployment Ratio," Working Paper No. 350-26, Washington: The Urban Institute, 1971. Also see Curtis Gilroy, "Black and White Unemployment: The Dynamics of the Differential," Monthly Labor Review (February, 1974), pp. 38-47.

Important opportunities exist to improve policy responses. Limitations on aggregate economic policy which have caused excessive reliance on either fiscal or monetary policy can be reduced. The financing of unemployment assistance programs have emerged as an important factor contributing to limited flexibility in this area. At the same time it provides an opportunity to extend the use of built-in stabalizers. The "fiscal drag" caused by inflation and economic growth can also be dealt with more automatically.

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[*] Annual Report of the Council of Economic Advisors, 1975.

[**] See Robert Hall, "The Process of Inflation in the Labor Market," Brookings Papers on Economic Activity, 2 (1974), pp. 343-409.

[***] The relationship is such that a one percent reduction in unemployment may be associated with a larger increase in prices at high rates of inflation than at low rates, in addition to the possibility that further inflation is less desirable when inflation is already high. See, for example Otto Eckstein and Roger Brimmer, "The Inflation Process in the United States," Joint Economic Committee, Congress of the United States, Washington: U.S. Government Printing Office, 1972.

Improving Economic Stabilization Policy

The unemployment insurance system is financed by a tax on employers, covering all wages below a certain level. Taxes which are collected are accumulated in trust funds which are available to pay out benefits according to the number of claimants. When the unemployment rate becomes large, payments to beneficiaries from the trust funds exceed tax collections. Thus the system operates as a "built-in" stabilizer during periods of hardship, returning more money to the economy than is taken out.

Over time the unemployment insurance system has been extended to provide greater coverage during periods of high unemployment. Additional benefits are provided to workers who would not normally be eligible, because they work in employment which is not covered by the program or because they have exhausted benefits. As these changes have accumulated the role of the trust funds has reversed. They have largely funded the more regular payments while payments timed to the business cycle are left to come from other sources.

When unemployment assistance programs are not adequately funded the additional funds are obtained through borrowing. However, during periods of recession Federal and state governments normally run sizable deficits. During such times resistance develops to running even larger deficits. Effective fiscal policy requires accepting larger deficits temporarily. When resistance develops to further tax cuts or spending increases, economic policy has to rely more exclusively on monetary tools. But varying the money supply is not as effective in a depressed economy as it is in an overheated one.

Consider, for example, that would happen if the unemployment rate went from 5 percent to 9 percent on a labor force of one hundred million persons; this would represent an increase of five million in the number of unemployed. If the average additional unemployed person were given a benefit of $100 per week, the increased annual expenditure would amount to $20 billion.[*]

The actual magnitudes are somewhat lower than this calculation suggests since tax collections accumulate some reserve during periods of low unemployment. In 1973 when the unemployment rate was 4.9 percent, unemployment insurance tax collections under all programs were $6.0 billion while disbursements were $4.5 billion. In calendar year 1974 when the unemployment rate rose to 5.6 percent, disbursements rose to $7.0 billion against tax collections of $6.8 billion.

When large increases in unemployment occur the figures change dramatically. Federal budgeted expenditures for all unemployment insurance programs rose from $5.5 billion in fiscal year 1974 to $17.5 billion in fiscal year 1976, an increase of $12 billion. The increase in the deficit which this produced contributed to resistance which significantly reduced the size of the tax cut which was possible in 1975.

To avoid this problem unemployment insurance expenditures should be fully funded. The earnings below which unemployment insurance taxes are collected should be raised automatically for increases in wage rates. This sort of "wage-indexing" is essential in order to assure that the trust funds maintain a high enough level of funds to cover the cost of benefits during economic downturns as severe as the 1975 decline.

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[*] This magnitude is increased because of the tendency to raise the unemployment insurance benefit rate during periods of high unemployment. Our estimates indicate that the effect of a one percentage point increase in the unemployment rate would be to raise the total disbursements under unemployment insurance by approximately one-eighth.

A major factor in the 1975 recession was the tightening of the money supply in a deliberate effort to control inflation. The increased inflationary pressures in the American economy raise the possibility that such policies will be repeated in the future. To the extent that is the case, planning of unemployment insurance financing will have to take into account the possibility of more frequent periods of unemployment and Federal budget deficit in the future.

Dealing with more deficit prone budgets requires efforts to assure that tax cuts occur more regularly when they are needed. Reducing the resistance to tax cuts caused by deficits is only one means of doing this. Another is to make tax cuts more automatic. This can be done by turning unemployment insurance tax collections into a built-in stabilizer. Collections would fall to provide tax cuts during recession and rising during prosperity. Such a stabilizer could be created by pegging the tax rate to the ratio of actual to potential Gross National Product.*

Another opportunity for making policy more effective arises because of the effects of inflation under a progressive personal income tax structure. Since tax collections are a higher proportion of income at higher income levels, the effect of inflation and economic growth is to increase tax collections. In recent years a $5-$10 billion tax cut has been required each year in order to avoid the constricting effects on the economy of greater tax collections. It would not be difficult to devise a system which automatically reduced taxes by the appropriate amounts in the absence of specific legislation to the contrary. Such a mechanism would aid in holding down the unemployment rate.

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*This is preferable to tying it to unemployment since unemployment rates tend to lag behind recovery and overstimulation from this delay would contribute to inflation during the recovery.

APPENDIX

Appendix A

STATISTICAL ANALYSIS

This section presents the findings of a multiple regression analysis of variation in poverty and related variables between 1948 and 1973. Three measures of poverty are used, the percentages of families and individuals below their respective Orshansky poverty lines and the average income of families with the lowest fifth of income. In addition the analysis looks at the behavior of program benefits. Three measures were selected which apply to groups with varying degrees of labor force attachment--the average weekly AFDC payment per family, the average weekly benefit under unemployment insurance and the earnings in a forty hour week at the minimum wage. Social welfare expenditures as a percent of Gross National Product was used to reflect the introduction of new programs and the expansion of eligibility as well as increases in benefit rates. This series includes public expenditures for health, education, income maintenance and pensions. These seven variables are the dependent variables in the statistical analysis. Their values for the period 1947 to 1973 are shown in Table A-1.

The analysis seeks to determine the effects of economic growth, inflation, business fluctuations and military activity on poverty and on benefits under social programs. Economic growth is measured by real median income of families. Inflation is measured by the percentage change in the Consumer Price Index from the preceding year. Between 1946 and 1947 prices rose 14.3 percent because of the lifting of wartime price controls in mid-1946, the pent up demand for goods and services and lags in the adjustment

TABLE A-1

DEPENDENT VARIABLES

Year	Percent Poor, Families	Percent Poor, Individuals	Mean Income of Families With Lowest Fifth (1973 Dollars)	Average Weekly AFDC Payment Per Family (1973 Dollars)	Average Weekly Unemployment Insurance Benefits (1973 Dollars)	Minimum Wage Times 40 (1973 Dollars)	Social Welfare Expenditures As A Percent of GNP
1947	27.6%	52.5%	$1,771	$30	$36	$32	7.8%
1948	28.3	53.7	1,668	31	35	30	7.9
1949	29.5	51.6	1,502	32	37	30	8.5
1950	26.8	51.6	1,590	31	39	55	8.3
1951	25.1	51.2	1,767	31	36	51	7.5
1952	24.3	47.1	1,843	32	38	50	7.6
1953	22.3	48.0	1,848	32	40	50	7.7
1954	23.7	51.6	1,751	31	41	50	8.4
1955	20.8	49.1	1.993	33	41	50	8.6
1956	19.2	47.7	2,199	34	44	65	8.7
1957	19.3	46.4	2,162	35	44	63	9.7
1958	19.5	46.7	2,159	35	48	61	10.3
1959	18.5	46.1	2.321	37	46	61	10.6
1960	18.1	45.2	2,352	37	49	60	11.0
1961	18.1	45.9	2,355	39	50	68	11.6
1962	17.2	45.4	2,548	41	51	68	11.6
1963	15.9	44.2	2,627	41	51	73	11.5
1964	15.0	42.7	2,767	43	52	72	11.8
1965	13.9	39.8	2,936	45	52	70	12.0
1966	11.8	38.3	3,506	48	55	68	12.6
1967	11.4	38.1	3,290	49	55	74	13.4
1968	10.0	34.0	3,561	50	55	82	14.0
1969	9.7	34.0	3,638	50	56	78	14.8
1970	10.1	32.9	3,557	50	57	73	16.2
1971	10.0	31.6	3.559	48	59	70	17.3
1972	9.3	29.0	3,620	47	59	68	17.5
1973	8.8	25.6	3,724	45	58	64	17.8

Sources and Notes to Table A-1

Percent Poor: Families: 1959-1973 from U.S. Bureau of the Census, Current Population Reports, Consumer Income, Characteristics of the Low Income Population, 1973, Series P.60, No. 94, Table 1. 1947-1958 calculated from CPS Income size distributions, using an overall poverty line adjusted to the percentage difference between the figure calculated in this way and the published figure based on tabulation of individual family records.

Individuals: same source as families. No adjustment was required since the 1959 figure was virtually identical under both methods.

Mean Income of Families with the Lowest Fifth of Income: 1947-1971 from U.S. Office of Management and Budget, Social Indicators, 1973, Table 5/10. 1972 and 1973 from Income Branch, Population Division, U.S. Bureau of the Census. Derived from income size distributions in the Current Population Survey.

Average Weekly AFDC Payment Per Family: U.S. Department of Health, Education and Welfare, Social Security Bulletin, Annual Statistical Supplement, 1967, U.S. Bureau of the Census, Historical Statistics of the United States, P.200, U.S. Department of Health, Education and Welfare, National Center for Social Statistics, Public Assistance Statistics, December, 1973.

Unemployment Insurance Benefit Rate: U.S. President, Economic Report of the President, 1975.

Minimum Wage: Wage and Hour Division, U.S. Department of Labor. The highest rate in effect for any time in a year was used.

Social Welfare Expenditures as a Percent of GNP: U.S. Department of Health, Education and Welfare, Social Security Administration, *Social Welfare Expenditures Under Public Programs in the United States, 1929-1966*, Research Report No. 25 and Alfred Skolnik and Sophie Dales, "Social Welfare Expenditures, Fiscal Year 1974," *Social Security Bulletin*, January, 1975. Estimates for calendar years were derived by taking averages of the fiscal years in which they fell.

of productive capacity to peacetime uses. To eliminate the unusual effects of this period and obtain more generally applicable estimates of the effects of inflation the analysis begins with 1948. The results shown differ only in minor ways from estimates using the full 1947-73 period. The unemployment rate used applies to the total labor force and is not adjusted for changes in demographic composition. Military activity is measured by defense expenditures as a percentage of Gross National Product. While periods of high military activity tend to be associated with low unemployment rates, these two variables were substantially independent of each other. Estimates of the effects of unemployment were not dramatically altered by elimination or inclusion of the military variable. The independent variables are presented in Table A-2.

The effects of the four measures of economic activity on the three poverty measures are shown in Table A-3. In each case both linear and logarithmic equations are estimated. In the logarithmic runs only income is in logarthmic form; the other independent variables remain linear. In all cases the income variable is highly significant, with coefficients ranging from 10 to 40 times their standard errors. The elasticity for families is significantly higher than 1 and for individuals it is lower. The response of the mean income of the poorest fifth of families to income is also significantly greater than proportional. The inflation rate is never significant. The unemployment rate does not show consistent behavior when poverty is measured by percentages poor but is significantly related to the income of the lowest fifth. The estimates for defense expenditures are inconsistent.

The response of individuals is weaker than families, not only in the income coefficient, but in the lower percentage of variation associated

TABLE A-2

INDEPENDENT VARIABLES

Year	Median Income of Families (1973 Dollars)	Inflation Rate	Unemployment Rate	Defense Expenditures As Percentage of GNP
1947	$ 6,011	14.3%	3.9%	3.9%
1948	5,864	7.8	3.8	4.2
1949	5,775	- 0.9	5.9	5.2
1950	6,108	0.9	5.3	4.8
1951	6,339	7.9	3.3	10.2
1952	6,523	2.2	3.0	13.3
1953	7,034	0.7	2.9	13.4
1954	6,877	0.5	5.5	11.3
1955	7,319	- 0.3	4.4	9.7
1956	7,806	1.5	4.1	9.6
1957	7,814	3.6	4.3	10.0
1958	7,812	2.7	6.8	10.3
1959	8,243	0.8	5.5	9.5
1960	8,425	1.7	5.5	8.9
1961	8,508	1.0	6.7	9.2
1962	8,750	1.0	5.5	9.2
1963	9,064	1.2	5.7	8.6
1964	9,402	1.3	5.2	7.9
1965	9,783	1.9	4.5	7.3
1966	10,269	2.9	3.8	8.1
1967	10,571	2.7	3.8	9.1
1968	11,014	4.1	3.6	9.1
1969	11,423	5.5	3.5	8.4
1970	11,265	5.8	4.9	7.6
1971	11,223	4.3	5.9	6.8
1972	11,794	3.3	5.6	6.5
1973	12,051	6.2	4.9	5.7

TABLE A-3

RELATIONSHIP OF PERCENTAGES OF FAMILIES AND INDIVIDUALS IN POVERTY AND OF THE MEAN INCOME OF THE POOREST FIFTH OF FAMILIES TO MEDIAN FAMILY INCOME AND OTHER VARIABLES, 1948-1973

	Linear			Logarithmic		
	Percent of Families in Poverty	Percent of Individuals in Poverty	Mean Income of Poorest Fifth of Families[a]	Percent of Families in Poverty	Percent of Individuals in Poverty	Mean Income of Poorest Fifth of Families[a]
Intercept	48.16	73.19	- 2.74	17.12	10.34	- 1.48
Median Income (hundreds of 1973 dollars)	- .324[d] (.008)	- .368[d] (.022)	.372[d] (.010)	- 1.602[d] (.038)	- .741[d] (.068)	1.263[d] (.030)
Inflation rate[b]	.069 (.081)	- .193 (.216)	.006 (.010)	- .007 (.004)	- .011 (.008)	.004 (.003)
Unemployment rate[b]	.011 (.177)	.260 (.455)	- .579[d] (.204)	(.025)[c] .009	.008 (.017)	.020[c] (.007)
Defense expenditure rate[b]	- .293[d] (.079)	.143 (.210)	- .170 (.094)	.009[c] (.004)	.011 (.008)	- .006 (.003)
R^2	.988	.942	.988	.990	.881	.990
Durbin-Watson statistic	1.23	1.03	2.15	1.11	.786	1.92

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[a] Hundreds of 1973 dollars

[b] Linear

[c] Statistically significant at the .05 level on a two tail test

[d] Statistically significant at the .01 level on a two tail test

Note: Standard errors are in parentheses

of variation associated with the economic variables and in the absence of a significant effect of any variable other than income.

Table A-4 presents the equations for the three measures of program benefit levels. Again income is significant at extremely high levels and accounts for most of the variation. Minimum wages rise proportionally with income but benefit levels under AFDC and Unemployment Insurance which go to those who are not employed grow significantly less rapidly, only seven-tenths as fast. The coefficients of inflation are always negative but not statistically significantly different from zero. The unemployment rate is only significant in the case of unemployment insurance benefits. Benefits tend to be higher for a given level of income when the unemployment rate is high. There is some tendency for the effects of military activity to vary systematically with the degree of labor force attachment. The minimum wage is positively related to defense expenditures. There is no relationship for Unemployment Insurance benefits. The effect on AFDC benefits is negative and it is significant in the logarithmic run.

In Table A-5 variation in Social Welfare Expenditures as a percent of Gross National Product is examined. In this case all of the economic variables are statistically significant. A zero coefficient for income would indicate that Social Welfare Expenditures maintain approximately a constant share of GNP as income rises. The estimates indicate that a one percent increase in income is associated with about a one percent increase in the share of income devoted to social welfare expenditures--the doubling of median income over the period accounts for about a doubling of Social Welfare Expenditures as a percent of GNP. The inflation rate has a statistically significant effect but the size of the effect is extremely small.

TABLE A-4

RELATIONSHIP OF AFDC AND UNEMPLOYMENT INSURANCE BENEFIT LEVELS AND THE MINIMUM WAGE TO MEDIAN FAMILY INCOME AND OTHER VARIABLES, 1948-1973

	Linear			Logarithmic		
	Average Monthly AFDC Payment Per Family[a]	Average Weekly Unemployment Insurance Benefit[a]	Minimum Wage (times 40 hours)[a]	Average Monthly AFDC Payment Per Family[a]	Average Weekly Unemployment Insurance Benefit[a]	Minimum Wage (times 40 hours)[a]
Intercept	16.57	7.96	- 5.88	- 7.45	- 7.22	- 9.56
Median Income (hundreds of 1973 dollars)	.343[d] (.023)	.383[d] (.012)	.589[d] (.078)	.741[d] (.045)	.703[d] (.019)	.959[d] (.123)
Inflation rate[b]	- .245 (.226)	- .168 (.117)	- .477 (.762)	- .005 (.005)	- .004 (.002)	- .007 (.014)
Unemployment rate[b]	- .705 (.476)	1.236[d] (.246)	.816 (1.603)	- .017 (.011)	.024[d] (.005)	.019 (.030)
Defense expenditure rate[b]	- .351 (.220)	.136 (.113)	1.571[c] (.741)	- .012[c] (.005)	.001 (.002)	.035[c] (.014)
R^2	.924	.983	.745	.937	.987	.765
Durbin-Watson statistic	.61	1.65	1.21	.72	2.02	1.51

[a] 1973 dollars
[b] Linear
[c] Statistically significant at the .05 level on a two tail test
[d] Statistically significant at the .01 level on a two tail test

Note: Standard errors are in parentheses

TABLE A-5

RELATIONSHIP OF SOCIAL WELFARE EXPENDITURES AS A PERCENT OF GROSS NATIONAL PRODUCT TO MEDIAN FAMILY INCOME AND OTHER VARIABLES AND RELATIONSHIP OF THE MEAN INCOME OF THE POOREST FIFTH OF FAMILIES TO SOCIAL WELFARE EXPENDITURES, 1948-1973

	Linear		Logarithmic	
	Social Welfare Expenditures as a Percent of GNP	Mean Income of Poorest Fifth of Families[a]	Social Welfare Expenditures as a Percent of GNP	Mean Income of Poorest Fifth of Families[a]
Intercept	- 2.99	- 3.14	- 7.34	- 2.26
Median Income (hundreds of 1973 dollars)	.145[d] (.007)	.392[d] (.048)	1.067[d] (.041)	1.357[d] (.111)
Inflation rate[b]	.154[c] (.066)	.076 (.111)	.010[c] (.005)	.006 (.004)
Unemployment rate[b]	.530[d] (.139)	- .508 (.271)	.044[d] (.001)	- .016 (.008)
Defense expenditure rate[b]	- .142[c] (.064)	- .189 (.107)	- .018[d] (.005)	- .007 (.004)
Social Welfare expenditures as a percent of GNP[b]		- .134 (.326)		- .008 (.009)
R^2	.969	.988	.978	.990
Durbin-Watson statistic	.98	2.21	1.40	2.12

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[a] Hundreds of 1973 dollars
[b] Linear
[c] Statistically significant at the .05 level on a two tail test
[d] Statistically significant at the .01 level on a two tail test

Note: Standard errors are in parentheses

A once and for all increase in the rate of inflation from 3 to 6 percent is associated with a one half percent increase in social welfare spending. The unemployment rate is positively associated with social welfare spending, apparently reflecting increased expenditures for both unemployment insurance and other income maintenance and pensions. Defense spending tends to be associated with opportunities which reduce the demand for income maintenance and its effect has the expected negative sign.

A test was also made of the effects of variation in social welfare expenditures as a percent of GNP on the mean income of the poorest fifth of families. The findings for the four measures of economic activity are essentially the same as before. The unemployment rate is no longer significant but the coefficient is negative in both runs at levels not far below significance. The explanatory power of the equation was extremely high initially and is not significantly affected. Social welfare expenditures are not significantly associated with the mean income of the lowest income fifth of families.*

The analysis has assumed that the effects considered can be adequately represented by a model in which all of the effects are taken to occur in the same year as the change in economic conditions. The Durbin-Watson statistics indicates the presence of serial correlation in the residuals of some equations. To further examine the question of time structure selected tests were performed in which Koyck distributed lag equations were estimated for the period 1948 to 1973 with income as the measure of economic activity. The tests provided important indications of lagged effects. It is difficult to clearly identify these effects with data available only on an annual basis. Further testing of lag relationships is recommended as the period of observation becomes longer.

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*This may stem from measurement error since this variable is a two year average. Measurement error in an independent variable tends to bias its coefficient toward zero. Another possibility is that the adverse work incentive effects of these programs resulted in losses in earned income which offset increases in transfer payments.

PROBLEMS AND PROGRESS IN A GROWING ECONOMY

Under conditions of continued growth in real per capita income the problem of poverty in the United States will decline in importance over time. But population groups will be affected very differently and will present different challenges for public policy. This discussion considers the extent to which progress can be expected for groups considered from several vantage points. The chapter is divided into three parts.

In Part 1, attention is given to the patterns of unemployment, labor force participation, education and occupation of black males. Participation in economic growth and significant relative advances are noted but serious problems due to past and present discrimination can be expected to continue. In Part 2 evidence is presented that Spanish-Americans are undergoing rapid assimilation and advance. Female-headed households present a serious problem because gains are limited by incomplete labor force attachment but the most effective strategy appears to be encouraging families to remain together rather than women to work. Unwanted births have declined but continue to be a significant problem. The farm and rural poverty problem is increasingly dominated by farm laborers rather than small farm operators and by rural nonfarm persons with a strong geographic attachment. The interrelationships of the ghetto and the economy are examined in Part 3.*

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*The aged and disabled are considered in the discussions of income maintenance programs. Black females in the labor force are examined as part of the discussion of female-headed households.

Part I

PATTERNS OF UNEMPLOYMENT, LABOR FORCE PARTICIPATION, EDUCATION AND OCCUPATION OF BLACK MALES

Unemployment, Labor Force Participation and Education

During the last decade and a half substantial changes took place affecting the present and future economic position of black males. These include changes in labor force attachment, returns to education and occupational status. Rapid changes can be expected in the future but some problems remain. The nature of those problems will have a significant impact on the extent and timing of future changes.

The proportion of black males both in the labor force and working a full year has been chronically below those of whites. However, in the early 1960s the black male rate rose rapidly.* Table 1 shows that the proportion of black males with any work experience during the year who worked for 50-52 weeks rose from 59.9 percent to 72.5 percent between 1960 and 1967. The proportion remained roughly constant thereafter. This rise represented a real shift toward full time work rather than a dropping out of the labor force of part year workers. Thus, a similar pattern appears in the second column where the number working 50-52 weeks is computed as a percentage of the total black male population rather than compared with those with work experience.

The labor force participation rate of all nonwhite males was 72.7 percent in March 1973. This was 5 percentage points below the rate for whites of 78.8 percent. Examination of labor force participation rates

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*See Wayne Vroman, "Changes in the Labor Market Position of Black Men Since 1974," paper presented at the annual meetings of The Industrial Relations Research Association, San Francisco, California, December, 1974.

TABLE 1

FULL YEAR LABOR FORCE PARTICIPATION AND EMPLOYMENT RATES OF NONWHITE MALES AGE 25-64, 1960-1973

	Worked 50-52 Weeks as a Percent of All With Work Experience	Worked 50-52 Weeks as a Percent of Population
1960	59.9%	55.7%
1964	65.6	61.3
1967	72.5	66.9
1970	71.5	64.9
1973	73.1	67.3

Source: U.S. Bureau of Labor Statistics, Special Labor Force Reports, "Work Experience of the Population," annual.

by level of education gives a different impression, however. Nonwhite males with less than a high school education had substantially *higher* labor force participation rates than whites with the same number of years of schooling (Table 2). Among males with any high school education the nonwhite rate is moderately lower. For those with more than four years of college the nonwhite rate is less than three-fourths of the white rate. This pattern does not support the notion that blacks have a lower attachment to the labor force because of lack of initiative or because of availability of welfare alternatives. Instead it suggests greater effort among those with the least skills and a greater disadvantage in the most highly skilled jobs.

Unemployment rates for black males are consistently higher than for whites (Table 3). The ratio of unemployment rates rises with education, with the black rate reaching double the white rate for high school graduates and above. Again the data suggest that differences get larger the more direct the competition with whites.

In 1959 the percentage difference in earnings between black and white males was greater the higher the level of education. An increase in black education actually led to a rise in the difference in earnings between blacks and comparable whites. This no longer appears to be the case. The percentage difference in earnings between races is about the same at all education levels. This change was brought about by an increase in the returns to schooling of blacks relative to whites which was greatest at the highest education levels. As a result in 1969, 14-34 year old black males earned about 86 percent as much as whites at all

TABLE 2

LABOR FORCE PARTICIPATION RATE OF MALES BY RACE AND EDUCATION, MARCH 1973

Education	White	Nonwhite	Ratio of Nonwhite to White
Elementary			
1-4	52%	49%	.94
5-7	60	69	1.15
8	61	70	1.15
High School			
1-3	72	68	.94
4	89	86	.96
College			
1-3	81	77	.95
4	91	86	.95
5 & over	91	66	.73

Source: U.S. Bureau of Labor Statistics, "Educational Attainment of Workers, March 1973," Special Labor Force Report 161, Table F.

TABLE 3

UNEMPLOYMENT RATE OF MALES BY RACE AND EDUCATION, MARCH 1973

Education	White	Nonwhite	Ratio of Nonwhite to White
Elementary			
less than 8	4.7%	6.1%	1.29
8	6.3	7.1	1.12
High School			
1-3	7.7	12.8	1.80
4	3.6	7.1	1.97
College			
1 year or more	2.6	5.6	2.15

Source: U.S. Bureau of Labor Statistics, "Educational Attainment of Workers, March 1973," Special Labor Force Report 161, Table M.

education levels, providing a nearly equal incentive to obtain additional education.*

The racial differences in labor force behavior for males reflect the level eventually achieved by blacks but they also reflect the rate at which that level is attained. If racial discrimination slows down the process of advance we would expect to find that racial differences in labor force participation and unemployment decrease with age as blacks acquire the necessary training to enter an occupation and to advance.

Table 4 compares the labor force participation rates of white and nonwhite male high school graduates by age. Below age 25 labor force participation rises with age for both races. By age 20-24 the white rate has risen to 93.7 percent, just short of its peak. By that age, however, the nonwhite rate is only 87.4 percent. The level of 94.6 percent is not reached until age 25-34, about 7 years later. Labor force participation rates of black males also turn down earlier; by age 45-54 a substantial difference again exists.

A similar tendency for blacks to achieve gains at later ages appears in data on unemployment. Unemployment rates of high school graduates (of both sexes) by age, presented in Table 5, show a much greater tendency to reach stable levels in the 35-44 year group for nonwhites as compared to 25-34 for whites. Similar patterns appear at other education levels.

Further evidence comes from an attempt to measure the desirability of jobs. Robert Lucas has made a detailed analysis of characteristics

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*See Joan Gustafson Haworth, James Gwartney and Charles Haworth, "Earnings, Productivity, and Changes in Employment Discrimination During the 1960s," American Economic Review, 65, No. 1 (March, 1975), pp. 158-168.

TABLE 4

LABOR FORCE PARTICIPATION RATE OF MALE HIGH SCHOOL GRADUATES BY RACE AND AGE, MARCH, 1973

Age	White	Nonwhite	Difference
16-19	72.2%	63.2%	9.0%
20-24	93.7	87.4	6.3%
25-34	97.5	94.6	2.9%
35-44	97.8	93.9	3.9%
45-54	95.5	87.1	8.4%
55-64	85.1	80.4	3.7%
65 and over	28.0	n.a.	--

n.a. -- not available
Source: "Educational Attainment of Workers," Table E.

TABLE 5

UNEMPLOYMENT RATE OF HIGH SCHOOL GRADUATES BY RACE AND AGE, MARCH, 1973

Age	Unemployment Rate		Nonwhite/ White
	White	Nonwhite	
16-24	7.9%	15.8%	2.00
25-34	3.8	8.0	2.11
35-44	2.4	4.0	1.67
45-54	2.6	4.6	1.77
55 and over	2.8	4.0	1.43

Source: "Educational Attainment of Workers," Table L.

of the work situation in finely classified occupations. He compared 30 year old and 50 year old college graduates. Lucas found no effect of age on job characteristics for white males, but advancing age decreased the prevalence of negative job characteristics among black males.[*]

The seven to ten year lag in relative unemployment and labor force participation rates can be taken as an indication of the extent of delay in advancement. This lag must be taken into account in examining current data to determine whether underlying changes have already taken place which will reduce the size of the gap between black and white male positions in the future. Analysts have tended to look at the occupational patterns of young black males because young workers change jobs more often than older ones. However, delayed effects of the kind indicated would not be expected to be observed unless a sufficiently advanced age group were examined.

Black males have shown impressive gains in education relative to white males. Their median years of school completed was 7.7 in 1960 compared to 10.7 for whites, a difference of 3.0 years. By 1973 the figures were 10.3 and 12.4 respectively, a difference of only 2.1 years. Furthermore, these comparisons mask even more rapid changes taking place in the youngest age groups. In 1960 the median education of all 25-29 year old blacks was 9.9 years compared to 12.3 for whites. In 1973 the figures were 12.3 and 12.7[**]

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[*] "The Distribution of Job Characteristics," The Review of Economics and Statistics, 56, No. 4 (November, 1974), pp. 530-540.

[**] U.S. Bureau of the Census, Statistical Abstract of the United States, 1974, Washington: U.S. Government Printing Office, 1974, Tables 187 and 186.

In spite of the gains in education among young black males there is little evidence of rapid occupational advance of black males relative to white males in the 1960s. Most gains have begun to appear only recently. This is what we would expect to find as a result of the lagged response.

The age patterns have other important implications as well. There has been a lot of discussion over whether blacks have different attitudes to investment than whites. It has frequently been suggested that blacks have a much shorter time horizon so that less account is taken of future implications of current decisions. Yet at least in this case the data suggest that observed patterns may reflect not attitudes but opportunities. The incentive to acquire skills may in fact be lower if the possibilities for obtaining returns are further deferred in time.

There has been a great deal of discussion in the field of heroin addiction over the "maturation hypothesis" which seeks to explain the pattern in which persons move out of addiction with advancing age. White males typically cease heavy heroin use in their early thirties. The age pattern is very different for black males, indicating a tendency to "mature out" about ten years later. The possibility has been raised that this represents a response to differences in opportunities.[**] The occupational data are consistent with this interpretation.

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[*] See Irving Leveson, "Cost-Benefit Analysis and Program Target Population: The Narcotics Addiction Treatment Case," American Journal of Economics and Sociology, (Spring, 1973) and "Drug Addiction: Some Evidence on Prevention and Deterrence," Urban Affairs Quarterly, (December, 1972), pp. 131-160.

Occupational Changes

There have been some black male occupational advances for a long time but these have tended to occur through a decline in the least skilled jobs. Erbe points out that "Whereas in 1950 twenty-four percent, nearly one-fourth, of the nonwhite male labor force was in farming, in 1970 only about four percent of nonwhite males in the labor force are farmers...."* What is significant about the most recent changes is the extent to which they represent achievement of positions at higher skill levels.

From 1965 to 1969 black males began to move rapidly into professional and technical, managerial, clerical and craftsmen and foremen jobs. The percentage changes in Table 6 in part reflect a rise from small initial numbers. Furthermore the 1965 to 1969 period was one of unusually tight labor markets. It is most significant, however, that high rates of growth for black males continued to occur from 1969 to 1973 in professional and technical and managerial jobs.

The percent of black males in professional and technical occupations rose from 5.6 in 1965 to 7.0 in 1969 and 8.2 in 1973 while the percent in managerial occupations increased from 3.4 to 4.2 and then 5.2. The numbers were still far below the 14 1/2 percent of white males in each of these occupations in 1973. Gains in craftsmen and foremen jobs did not continue in the less cyclically dominated 1969-73 period. The rapid growth of clerical jobs did not continue either, as the proportion of

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*Brigette Mach Erbe, "The Redistribution of Black Males in the American Occupational Structure: 1950-1970," paper presented at the Midwest Sociological Meetings, Spring, 1974.

TABLE 6

PERCENT CHANGE IN EMPLOYMENT IN SELECTED OCCUPATIONS BY RACE AND SEX, 1965-1973

1965-69

	WHITE MALE	NONWHITE MALE	WHITE FEMALE	NONWHITE FEMALE
Professional & Technical	20.7%	30.5%	21.0%	35.3%
Managerial	7.3	28.9	13.5	13.8
Sales	-5.8	4.3	[illegible].0	30.8
Clerical	2.2	39.2	29.2	92.6
Craftsmen & Foremen	8.4	36.0	26.4	46.3

1969-73

	WHITE MALE	NONWHITE MALE	WHITE FEMALE	NONWHITE FEMALE
Professional & Technical	2.4%	26.0%	16.3%	32.7%
Managerial	1.8	33.2	23.5	91.6
Sales	17.1	24.8	10.3	20.2
Clerical	-1.2	4.7	5.0	34.9
Craftsmen & Foremen	9.8	12.9	39.6	35.0

Source: U.S. Bureau of Labor Statistics, "Labor Force and Employment in 1965," "Employment and Unemployment in 1969," and "Employment and Unemployment in 1973," Special Labor Force Reports Nos. 69, 116 and 163.

black males in these jobs exceeded their proportion of employment in all occupations.

Freeman has computed a relative occupational index of black and white males which weights occupations by their level of earnings. The ratio of median education of black to white males rose steadily from 2/3 to over nine-tenths from 1952 to 1972 and grew particularly rapidly after 1959. While the education advance was underway for some time the occupation index began to rise only gradually in the late 1960s after a long period of remaining relatively flat. However, the occupation index showed a sharp rise of 2 percent from 1970 to 1971 in spite of deteriorating labor market conditions.*

The relationship between education of black males relative to whites and their relative occupation status measured in terms of expected earnings is shown in Figure 1. The rise in relative occupation status in the early 1970s represents a lagged response to the earlier rise in education. Changes in occupation to date reflect only the early part of the rise in education because of the lag. It would appear on this basis that very substantial further increases in the relative occupation status of black males can be anticipated during the next decade. Furthermore, since the education of black males relative to white males is far greater among the younger age groups, advances in relative occupation can be expected to continue for a long time as the labor force ages and the older workers are replaced by persons with more equal educational backgrounds.

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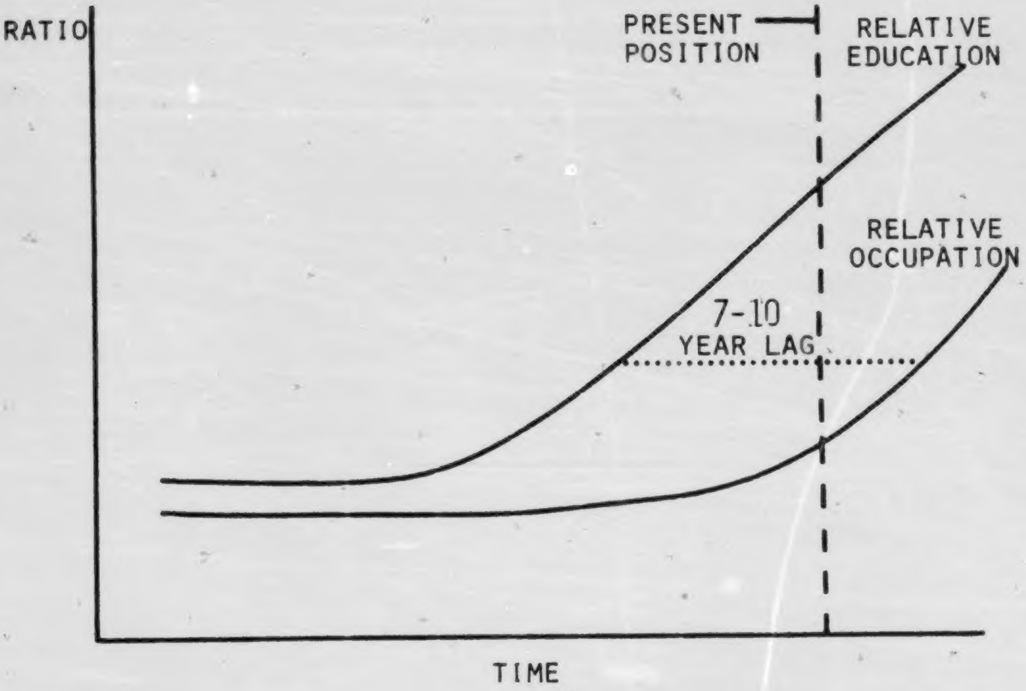
*Richard Freeman, "Changes in the Labor Market for Black Americans, 1948-72," Brookings Papers on Economic Activity, 1 (1973), pp. 67-131.

FIGURE 1

RELATIONSHIP OF RELATIVE EDUCATION OF BLACK AND WHITE MALES AND RELATIVE OCCUPATION STATUS



Some indication of future prospects can be obtained from a model developed by Christensen and Bernard. The model does not take into account these timing relationships and therefore overestimates the extent of the gains. The authors also assume that equal quality of schooling will lead to equal earnings without taking into account achievement levels. The results are nevertheless instructive. Christensen and Bernard estimate the ratio of the earnings of blacks of both sexes to whites according to alternative assumptions regarding occupational discrimination as follows:

	Zero Discrimination	1965 Level of Discrimination
1965	.87	.75
1980	.94	.77
2000	.97	.81

The growth of education would result in virtual equality by the end of the century if there were no discrimination as compared to a 1965 earnings ratio of .63. Even without a change in discrimination from 1965 levels the earnings ratio would rise to .81. Reductions in discrimination since 1965 would increase relative earnings further.[*]

Further aspects of discrimination are discussed in Appendices A and B to this chapter.

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[*] Sandra Christensen and Keith Bernard, "The Black-White Earnings Gap," *Journal of Human Resources*, 9, No. 3 (Summer, 1974), pp. 376-389.

Part 2

FURTHER ANALYSIS OF POPULATION GROUPS

Female Headed Households

Female headed households present a number of problems which require special consideration. While 86 percent of all children live with both parents, families headed by women contain half of all children in poverty according to the "hard core" standard definition. This heavy concentration of poor children is the result of many factors including the effect of unavailability of the income of the father on the income and hence poverty status of the family, the effect of presence of children on the frequency with which women work and the way in which the poverty line is defined to be greater for larger families. Racial differences in family headship of children of the poor are particularly marked. Four out of 10 white children in poverty are in female headed households compared to 2/3 for blacks.* In the 1960's there was particular concern about the rise in female headship among blacks as an outgrowth of the finding of the Moynihan Report that "the breakdown of the Negro family has led to a startling increase in welfare dependency."**

In the ensuing discussion the rise in dependency was not seen as a response to an externally caused breakdown of the family. Rather, family dissolution was regarded as a consequence of the Welfare system itself. Welfare status was associated with high levels of illegitimacy and desertion.[*] The availability of a welfare alternative permitted fathers to avoid financial responsibility and the eligibility rates for Public Assistance produced a substantial loss of transfer payments when a male was present. Recently evidence has emerged which documents the relationship between welfare benefit rates and the prevalence of female headed families on welfare. Honig found that a 1 percent increase in welfare benefit rate was associated with a .3 to .4 percent increase in the rate of female headship.[**] The effects of the welfare system as a major explanation of family instability is now widely recognized and there is support for a restructuring of benefits to avoid adverse effects on family composition.

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*U.S. Bureau of Labor Statistics, "Children of Working Mothers, March 1973," Special Labor Force Report, No. 165, May 1974, Table 6.

**Office of Policy Planning and Research, U.S. Department of Labor, "The Negro Family: The Case for National Action," Washington: U.S. Government Printing Office, 1965, excerpted as "The Negro American Family," in Race and Poverty, The Economics of Discrimination, edited by John Kain, Englewood Cliffs, N.J.: Prentice Hall, Inc., 1969, p. 41.

The restructuring of benefits as part of a welfare reform proposal could have an enormous effect on the incomes of those families which remain together. A 1974 study by the U.S. General Accounting Office revealed that the median income of absent fathers of children on welfare was $8,544 per year.[***] While the study was limited to fathers who had agreed to make child support payments, the earnings cited are typical of those for a laborer and appear to provide a reasonable estimate of incomes of all fathers of welfare children who might take responsibility for support of the children if an appropriate way of getting them to do so could be applied.*

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[*] For example, see Lawrence Podell, "Families on Welfare in New York City, Preliminary Report No. 1, Women With and Without Husbands on Welfare," City University of New York, Center for Social Research, November, 1967.

[**] Marjorie Honig, "The Impact of Welfare Payment Levels on Family Stability," The Family, Poverty and Welfare Programs: Factors Influencing Family Instability, Studies in Public Welfare No. 12, Part 1, Subcommittee on Fiscal Policy, Joint Economic Committee, Congress of the United States, November 4, 1973, pp. 37-53 and "AFDC, Income Recipient Rates, and Family Dissolutions," Journal of Human Resources, 9, No. 3 (Summer, 1974), pp. 303-322.

[***] Eileen Shanahan, "Welfare Abuses by Fathers Studied," New York Times, December 8, 1974, p. 31.

Changing the structure of welfare benefits is a voluntary mechanism for seeking to keep families together. It removes adverse incentives of the current benefit structure and allows improvements to occur as a result of decisions made at individual initiative. There has been some suggestion that compulsory means be used to accomplish the same objective. The informal nature of many family relationships presents such serious enforcement problems that it is not at all clear that comparable results could be achieved by costly and potentially punitive efforts at compulsion. Furthermore, such measures at best obtain financial sharing without meeting the more fundamental objective of bringing the family together.

The rapid rise in welfare benefit rates in the 1960's was not the only development contributing to the extensive changes in family structure. Between 1947 and 1969 the number of nonwhite female households grew at an annual rate of 4.1 percent compared to 1.3 percent for whites.* The difference preceded the changes in welfare benefits by many years. What happened, however, was that there was a rapid change in the relative earnings of black females compared to black males.

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*"Fathers are absent from the overwhelming majority of AFDC families. In 1971, 31 percent of fathers of AFDC families had deserted or separated from their families; 14 percent had divorced the mothers and 28 percent left their children without marrying the mother. All told, about three-fourths of fathers of AFDC children had left their families. Only in 24 percent of AFDC families are the fathers dead, incapacitated, or unemployed." Robert Lerman, "The Family, Poverty, and Welfare Programs: An Introductory Essay on Problems of Analysis and Policy," The Family, Poverty and Welfare Programs: Factors Influencing Family Stability, op. cit., p. 34.

Recent studies have demonstrated that family composition is strongly influenced by the earnings of women relative to men. The likelihood that women will remain unmarried is substantially greater the more the women earn. Santos estimated that in 1960 a one percent increase in the wage of wives, all other things being equal, was associated with a .4 percent difference in the proportion of women remaining single.**

The importance of these findings stems from the rapidity of the growth of female earnings. "Since 1950, the income of nonwhite women has risen much more rapidly than that of nonwhite men or of whites of either sex. The average income of nonwhite women in 1968 was 160 percent greater than in 1950; among nonwhite men the rise was only 60 percent."*** The implication is that _in addition to gains from restructuring welfare benefits, substantial benefits of improved family cohesion can be expected as a result of improvements in the earnings of black males_.

Another major approach to raising the incomes of female headed households has been to encourage women with children to work. This strategy is far more limited in its potential for three main reasons. First, the reduced effort in child rearing when mothers work sacrifices other important objectives. Second, the amount by which incomes would be raised by more regular employment are far smaller than the effects of presence of a male. Third, policies to increase employment of female household heads can be expected to be very limited in their impact.

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*Reynolds Farley, "Family Types and Family Headship: A Comparison of Trends Among Blacks and Whites," _Journal of Human Resources_, 6, No. 3 (Summer, 1971), pp. 275-296. Also see Heather Ross and Anita MacIntosh, "The Emergence of Households Headed by Women," Working Paper 776-01, The Urban Institute, July 1, 1973.

**Fredericka Santos, "Some Economic Determinants of Marital Status," unpublished Ph.D. dissertation, Columbia University, 1972.

***Farley, _op_. _cit_., pp. 285-286.

The possibilities for raising earnings of females through increased work can be gauged from comparisons of women below the poverty line with women above it in Table 7. If female family heads below the poverty line worked as readily as those above it 8 out of 10 would be employed during the course of a year instead of 4 out of 10 and those who work would be more likely to work for a full year. But the addition of the income of a male can be expected to add more than twice as much work effort, frequently at a higher salary as well. Furthermore, the availability of earnings of a male can be expected to have only a limited impact on the extent to which women with children work. In March 1973, women in husband-wife families of all income levels with children under age 6 had a 30 percent chance of being in the labor force compared to 40 percent for female household heads.*

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*"Children of Working Mothers, March, 1973," Table 5.

One study found that within the Brooklyn, N.Y. Model Cities area labor force participation was virtually unaffected by presence of a male. The labor force participation rates for women were:

	Head	Spouse of Head
Black	.33	.31
Puerto Rican	.16	.14

The data are from Byron Bruce Zeller, "Labor Force Paritcipation of Women in the Ghetto," New York City Department of City Planning, 1970. The author suggested this may reflect a situation in which the availability of the earnings of the male is viewed as transitory and therefore not

TABLE 7

LABOR FORCE PARTICIPATION AND WORK EXPERIENCE OF FAMILY HEADS BY POVERTY STATUS, SEX AND RACE, 1972

	Women Below The Poverty Line	Women Above The Poverty Line	Men Below The Poverty Line	Men Above The Poverty Line
All Races:				
Percent who worked in 1972	38.7%	79.6%	83.0%	96.0%
50-52 weeks	8.9	54.2	45.6	82.6
1-49 weeks	29.8	25.4	37.4	13.5
Part year due to unemployment	5.5	7.8	21.7	7.7
Other	24.3	17.5	15.7	5.8
White:				
Percent who worked in 1972	41.4	80.4	82.5	96.2
50-52 weeks	7.4	54.9	45.9	83.0
1-49 weeks	34.0	25.5	36.6	13.1
Part year due to unemployment	5.9	7.9	21.5	7.5
Other	28.1	17.6	15.2	5.7
Black:				
Percent who worked in 1972	37.4	79.5	84.8	95.0
50-52 weeks	10.5	53.9	46.0	77.2
1-49 weeks	26.9	25.4	38.8	17.8
Part year due to unemployment	5.5	8.1	21.8	10.2
Other	21.4	17.4	17.0	7.6

Source: U.S. Bureau of Labor Statistics, "Children of Working Mothers, March, 1973," Special Labor Force Report No. 165, May, 1974, Table 6.

Reform of welfare programs to remove adverse effects on work incentives can be expected to have only a small effect on incomes of female family heads. This can be seen, for example, from the very low labor force participation rates of women with young children, shown for the general population in Table 8 These rates are already subject to normal market incentives without being dominated by disincentives due to welfare. Furthermore, differences according to education and to age, a proxy measure of work experience do not suggest that increased training will make a large difference in the frequency of work, although it may have a significant effect on earnings.

Another means used to increase labor force participation of female household heads has been the provision of day care services. Historically only a small proportion of the population has ever used organized day care services and these have often served to support the irregular work patterns of the secondary worker rather than to facilitate long-term committments to the labor force. If day care becomes a generally available service it may have an important effect on the labor force participation of the poor. But at present it is far too expensive to be justified solely on the basis of reducing economic dependency. The cost of providing a socially acceptable program to one preschooler and afterschool care and transportation for one or two school age children is not very different from what a mother is able to earn in full time employment.

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given weight in labor force decisions. To the extent any such transitory element is present, we would expect any effort to increase the presence of males to be offset by declines in employment of females to an even lesser extent than the national figures suggest.

TABLE 8

PROPORTION OF WOMEN IN THE LABOR FORCE BY AGE OF YOUNGEST CHILD, 1970

	Age of Youngest Child		
Characteristic of Mother	0-2	3-5	6 and Older
Age of Mother:			
Under 20 years	28%	29%	*
20-24 years	31	46	47%
25-34 years	24	39	55
35-54 years	24	36	53
Education of Mother:			
0-8 years	20	31	45
0-11 years	24	37	49
12 years or more	27	39	55

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* Insufficient sample size.

Source: Jack Ditmore and W.R. Prosser, A Study of Day Care's Effect on the Labor Force Participation of Low Income Mothers, Office of Economic Opportunity, June, 1973, Appendix A, based on special tabulations of the March 1970 Current Population Survey.

The third major policy direction for raising income, in addition to encouraging families to remain intact and seeking to influence labor force participation rates of female household heads, is to reduce the frequency of unwanted births. In the next section the importance of the problem of unwanted births and its continued need for policy emphasis is pointed out.

Female headed households can potentially benefit from a large number of factors. These include the great increase in job opportunities for women generally and for black women in particular, the decline in birth rates and the growth of public assistance. Further benefits would be provided by welfare reforms which restructure benefits to provide work incentives at the same time as supplementing earnings of low wage workers and which provide incentives for families to remain intact. Females who would become household heads can also be expected to gain from further choice as to whether to have children. Black females can be expected to gain from improvements in income of black males because of the resulting incentive for family cohesion. Improvement from this source will depend more on the frequency with which males support their children, however, than on the participation of females in an increasingly affluent economy.

Unwanted Births

The evidence on the extent of unwanted births in the 1960s was surprisingly strong in view of the admission required by mothers on surveys after children were born that the children were not wanted. The extent of unwanted births was a national phenomenon during the period of rapidly declining birth rates. The problem affected broad population groups but it was greatest and most serious for the poor. The relationship of unwanted births to illegitimacy and desertion has made it a major factor in the formation of female headed households. Two-thirds of female household heads have not completed high school, with early pregnancy a frequent cause of dropping out of school.*

The 1965 national Fertility Study based on a survey of 5,000 women in the childbearing years revealed that "Twenty-two percent of all recent births to married couples were unwanted by at least one spouse....Seventeen percent of births to the nonpoor were unwanted, while 42 percent of births to poor people were unwanted."** This corroborated a 1960 survey of white married couples which showed that "if the wife had not gone to high school and if the husband earned less than $4,000 a year, then 39 percent did not want as many children as they already had."***

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*U.S. President, *Manpower Report of the President, 1975*, Washington: U.S. Government Printing Office, p. 70.

**Sandra Blakeslee, "Unwanted Births Found High in U.S., *The New York Times*, October 29, 1969, p. 125; based on an interview with Dr. Charles F. Westoff of the Princeton University Office of Population Research.

***Arthur A. Campbell, "The Role of Family Planning in the Reduction of Poverty," *Hearings before the Subcommittee on Public Health and Welfare of the Committee on Interstate and Foreign Commerce, House of Representatives, Ninety-first Congress, Second Session, August 3, 4, and 7, 1970*, p. 186, based on data in Pascal K. Whelpton, Arthur A. Campbell, and John E. Patterson, *Fertility and Family Planning in the United States*, Princeton: Princeton University Press, 1966, p. 243.

The impact of unwanted births is apparent in the statistics on illegitimacy. The National Fertility Study's survey of 1,000 first births in each of the years 1964-66 indicated that "One third of all first-born children in the years 1964 through 1966 were conceived out of wedlock....Hastily arranged marriages gave many babies legitimacy by the time of their birth, but one out of every seven was born illegitimately during that period." Furthermore, "More than 37 percent of the women in families earning less than $3,000 a year went to the altar pregnant. Eight percent from families with income exceeding $10,000 were expecting when married."[*]

The extent of unwanted children was so great that Dr. Charles Westoff, of Princeton University's Office of Population Research, has estimated unwanted births accounted for 35 to 45 percent of all U.S. population growth between the years 1960 and 1968.[**] The implications for poverty are equally dramatic. The costs of supporting unwanted children reduce the quantity of the family's resources available for other family members since the labor market rewards efforts independently of family size, and the presence of children reduces the likelihood of the mother working.[***]

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[*] Nan Robertson, "Extramarital Conceptions Found High," New York Times, April 8, 1971, p.1.

[**] Blakeslee, op. cit.

[***] Unwanted children have more frequently been the victims of serious neglect, as evidenced by child beating and even a reduced likelihood of a mother seeking prenatal care. In addition, a large number of births in a family has been associated with infant mortality and mental retardation. See Ray E. Helfer and Henry Kempre, The Battered Child, Chicago: University of Chicago Press, 1968, Elizabeth L. Watkins, "Low-Income Negro Mothers - Their Decision to Seek Prenatal Care." American Journal of Public Health, 58, No.4 (April 1968), pp. 655-667, Blanche Bernstein and Mignon Sarber, Deterrents to Early Prenatal Care and Social Services, Albany: New York State Department of Social Welfare, 1960, and U.S. Department of Health, Education and Welfare, Maternal and Child Health Care Programs, Program Analysis 1966 - 6, October 1966.

The large decline in birth rates since 1958 has substantially reduced unwanted births as a problem for the future. The implications for poverty are apparent from the statistics on welfare. In New York City the number of births per 1,000 family public assistance cases fell from 168 in 1963 to 76 in the year ending June 1974.* Much of the benefit is yet to be felt as persons with unwanted children are replaced by those whose family size more closely reflects the exercise of choice. Programs to provide information and a variety of fertility-related services, along with other factors, appear to have contributed to this improvement.

Fertility differentials suggest that there is still a significant problem of unwanted births. Fertility differences according to income and race are still marked. Average numbers of births per thousand women age 15-44 during 1966-70 were as follows:

	Total	White	Nonwhite
Below poverty line	121.6	113.5	136.9
100 to 125 percent of poverty line	118.4	113.4	132.9
Above 125 percent of poverty line	80.7	78.3	104.9

Declines from 1960-65 were about the same at each income level for whites but blacks below 125 percent of poverty showed a decline of 25 percent compared to 3 percent for higher income blacks.** Particularly high fertility rates continue to exist for Southern rural blacks, Spanish Americans, American Indians and rural farm populations.* Furthermore, while births to teenagers have been declining, they have been increasing their share of all births and illegitimate births have risen as a share of teenage births--according to data for New York City where services are available more than typically.**

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*New York State Department of Social Services, "Trends in Births in Family Public Assistance Cases in New York City, 1963-June, 1974," Program Brief, No. 10, October, 1974. Also see Leonard Aranson, "Link Abortion to Huge Dip in Welfare Rolls," Chicago Today, March 16, 1973.

**Arthur Campbell, "The Role of Family Planning in the Reduction of Poverty," Journal of Marriage and the Family, 30, No. 236 (1968), Table A-1 as reported in Frederick Jaffee, "Low-Income Families: Fertility Changes in the 1960s," Family Planning Perspectives, 4, No. 1 (January, 1972), pp. 43-47.

No existing solution is fully acceptable. The most successful methods have some undesirable side effects and inconvenience. Fertility services to teenagers are often not effective unless provided without parental consent and have been accused of encouraging promiscuity. Yet they can have a large impact in reducing the costs of unwanted births. Abortions are not always acceptable on religious or moral grounds and because they come late in the process have substantial psychological and monetary costs. Yet they have had a very large impact in avoiding unwanted births. In the long run the answer lies in the development of more convenient birth control technology but in the short run the problems of unwanted births are serious enough so that available measures should be continued and facilitated for those who wish to use them on a voluntary basis.

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*In 1967-70 the fertility rates for married women under age 40 as a ratio to the urban white rate were Southern rural blacks: 1.29, Puerto Rican Americans: 1.31, Mexican Americans: 1.43, American Indian: 1.28. The ratio for blacks in the nonsouth was 1.04, for Southern urban blacks 1.09 and for all blacks 1.10. See James Sweet, "Differentials in the Rate of Fertility Decline: 1960-1970," Family Planning Perspectives, 6, No. 2 (Spring, 1974), pp. 103-107.

**Jean Pakter, Donna O'Hare and Frieda Nelson, "Teenage Pregnancies in New York City; Impact of Legalized Abortions," paper presented at the annual meetings of the American Public Health Association, New Orleans, La., October 23, 1974.

Spanish-Americans

The problems faced by Spanish-Americans have largely been those experienced by new immigrant groups throughout the history of the nation. The evidence indicates that over a period of time Spanish-Americans have been assimilated and have advanced rapidly in socio-economic status.

One indication of the extent of advancement comes from data on the shift out of blue collar employment by Mexican-Americans in East and South Central Los Angeles. Table 9 indicates that 70 percent of Mexican-Americans were blue collar workers compared to 56 percent for all residents and 46 percent for blacks. The proportion in blue collar jobs decreases with length of residence, falling to 42 percent for those at their present address for all their lives.*

Another Bureau of Labor Statistics study found important differences in occupational distribution in New York City between persons of Puerto Rican parentage and those born in Puerto Rico.** But the same study was discouraged by evidence that "87 percent of all Puerto Ricans over the age of 25 residing in New York City in 1960 had completed their education without finishing high school."***

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*Two caveats must be borne in mind in interpreting these data. The surveys were taken from July 1968 to June 1969 after a period of rapid economic growth. Blue collar employment is more sensitive to the business cycle than white collar and the relative position of Spanish-Americans may be overstated as a result. Second, the figures apply to designated poverty areas rather than to all residents of a city. Comparisons of ethnic groups may reflect varying degrees of concentration in poverty areas among ethnic groups by length of residence and occupation.

**Herbert Beinstock, Labor Force Experience of the Puerto Rican Worker, New York: U.S. Bureau of Labor Statistics, 1968, Table X.

***Ibid., p. 29.

TABLE 9

ETHNIC DIFFERENCES IN BLUE COLLAR EMPLOYMENT OF PRESENT OR LAST JOB BY LENGTH OF RESIDENCE, BOTH SEXES, EAST AND SOUTH CENTRAL LOS ANGELES, JULY 1968-JUNE 1969

Length of Residence At Present Address	Percent Blue Collar All Persons	Mexican-Americans	Blacks
Total	56.2	69.6	45.5
Less than 5 years	61.4	73.4	48.5
Under 1 year	60.3	73.8	47.2
5 to 10 years	53.2	66.7	45.9
Over 10 years			
Not all of life	47.9	60.5	n.a.
All of life	50.0	42.1	n.a.

n.a. -- not available.

Source: U.S. Bureau of Labor Statistics, "Urban Employment Studies, Employment and Unemployment in East and South Central Los Angeles," Regional Report No. 21, p. 10.

By 1973 Bernstein and Bondarin were able to report great equalization of education among young Puerto Ricans compared to whites. Table 10 shows that the median years of school completed for 20-25 year old hispanics were already as high as nonwhites and only 2/3 of a year behind whites. For 16-18 year olds the difference in education between hispanics and whites was only three-tenths of a year.

National data show that in 1973 the labor force participation rate of males of Spanish origin age 20 and over was well above the rate for either blacks or whites. The rate of 85.9 percent compared to the rate for whites of 81.6 percent and blacks of 78.2 percent. The unemployment rate of 5.3 percent, while well above the white rate of 2.9 percent, was below the 5.9 percent for blacks.*

Comparisons of ghetto areas of Houston, Los Angeles and New York in July 1968 to June 1969 provide evidence that the economic status of Spanish-Americans is highly responsive to economic conditions (Table 3). A look at the median weekly earnings of full-time workers age 16 and over in Houston reveals that the $103 per week of Spanish-Americans exceeded the $95 of blacks. Spanish-Americans in Houston had a labor force participation rate of 90.3 percent compared to 83.4 percent for blacks and an unemployment rate of 1.5 percent compared to 4.1 percent. This was in spite of a difference in education of four years.

In New York where demand was not stimulated by rapid growth, black males had higher earnings and education than Spanish-Americans and similar labor force participation but still had higher unemployment.

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*Robert V. McKay, "Employment and Unemployment Among Americans of Spanish Origin," Monthly Labor Review (April, 1974), pp. 12-16.

TABLE 10

MEDIAN YEARS OF SCHOOL COMPLETED BY AGE, BY RACE, NEW YORK CITY, 1973

Age	White, Excluding Hispanic	Nonwhite	Hispanic	Difference Between White and Nonwhite	 White and Hispanic
14-16	8.9	8.6	8.5	.3	.4
16-18	10.5	10.3	10.2	.2	.3
18-20	12.4	12.2	10.9	.2	1.5
20-22	12.9	12.3	12.4	.6	.5
22-25	13.0	12.4	12.2	.6	.8
25-30	13.0	12.2	10.7	.8	2.3
30-35	12.9	12.3	10.6	.6	2.3
35-45	12.6	12.2	10.2	.4	2.4
45-55	12.3	9.9	8.4	2.4	3.9
55-65	12.1	8.8	7.4	3.3	4.7
65-75	9.6	9.1	6.6	.5	3.0
75 and over	8.4	4.2	5.2	4.2	3.2

Source: Blanche Bernstein and Arley Bondarin, "New York City's Population--1973, Socio-Economic Characteristics from the Current Population Survey," New York: New School for Social Research, 1974, Tables 2B - 2G.

Los Angeles was in between. Blacks earned more but had a far higher unemployment rate and lower labor force participation.

In Houston more than one out of four Spanish-American males in the ghetto area was employed as a craftsman or foreman and nearly one out of five was employed in construction.

	Percent in Construction	Percent Craftsmen, Foremen and Kindred Workers
Houston (20 and over)		
Black	15.8%	12.9%
Spanish-American	18.2	25.8
Los Angeles (20 and over)		
Black	5.0	16.1
Spanish-American	5.6	20.7
New York		
Black	4.8	13.8
Puerto Rican	1.9	12.3

In Los Angeles an unusually high proportion of Spanish-Americans were employed in operative jobs. These include packers, assemblers, inspectors, welders, laundry workers and similar activities. The figures were:

	Percent Operatives	
	Black	Spanish-American
Houston	34.0%	34.3%
Los Angeles	38.2	46.7
New York	29.0	35.9

The ethnic difference is particularly large in view of the very limited prevalence of Spanish-Americans in the higher paying driving categories of operative employment.

The evidence cited points to continued improvement of Spanish-Americans as their length of time in this country increases and as the economy grows. The cumulative effects during the rest of this century should be quite dramatic.

The *per capita* incomes of Spanish-Americans continue to be depressed by high fertility rates. Furthermore the data on Spanish-Americans in cities do not indicate the problems faced by groups in rural areas such as migratory farm workers.

Farm and Rural Nonfarm Populations

The rapid growth of agricultural productivity has been associated with a decline in the demand for farm labor. Between 1948 and 1973 alone, while the number of persons employed in nonagricultural industries increased by 60 percent, farm employment dropped by 55 percent from 7.6 million to 3.5 million. Wage and salary employment declined by 24 percent to 1.3 million. The drop in self-employment from 4.7 to 1.8 million was 72 percent.*

Much of the problem of rural poverty was dealt with by the aging of less efficient farmers and by the large migration from the farms as opportunities increased elsewhere. Low income communities in rural areas continue to retain substantial numbers of persons who no longer receive the greater part of their income from farming.

As small farms have been replaced by larger ones the problem of farm poverty has shifted from one of marginal self-employed farmers to one dominated by the poverty of farm hands and migratory farm workers. In 1973 the median income of year round full-time farmers and farm managers was $6,700 while for farm laborers and supervisors it was $4,700.** The problems which low full-time incomes present are further aggravated by the lack of availability of full-time work. The importance of bringing basic education, public health and nutrition to these groups so as to make it possible for them to participate in the gains in the rest of society has been widely recognized.

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*Unpaid family workers accounted for the remainder.

**These figures from Current Population Survey are subject to underreporting which does not affect any basic conclusions.

Those persons who remain on farms benefit little even from prosperity in the agricultural sector. Between 1971 and 1973 the index of prices received by farmers rose from 112 to 172. Under the impetus of higher prices operators' net income from farming soared from $14.4 billion to $36.2 billion. During the same period however farm wages (including non-cash benefits) rose from $4.4 billion to $5.2 billion according to the U.S. Department of Agriculture. This was an 18 percent rise, occurring at the same time as wage and salary employment rose 8 percent and the Consumers' Price Index 6 percent. According to the Current Population Survey the median income of year round full-time farm laborers fell behind the cost of living by 3.6 percent between 1972 and 1973. In 1974 the U.S.D.A. showed a rise of farm wages to 6 billion, a 15 percent increase against an 11 percent rise in the cost of living and a 1 percent increase in employment, leaving real wages no higher than in 1972.

Farm operators whose incomes fell back in 1974 can be expected to continue to benefit from world food demand. Furthermore, in 1973 there was a major change in the system of farm price supports. A policy of direct government payments to producers of wheat, feedgrains and cotton to restrict commodity production was replaced with a set of target prices. If the market price fell below the target price farmers would receive cash subsidies for the difference. While the guaranteed prices were below the market prices, since market prices had undergone substantial increases, farm incomes were guaranteed at historically high levels. Over the long run this plan can be expected to raise farm proprietors' incomes while making their incomes more stable.

The situation for farm laborers is quite different. The great increases in demand which occurred did not raise their incomes. Farm laborers face a double problem. The supply of farm labor is very sensitive to wage rates, so that increases in demand raise employment without causing much of an impact on wages. But at the same time the demand for farm labor is very sensitive to price.* Increases in wage rates result in greater mechanization and cause sharp declines in employment. This limits the potential impact of minimum wages and collective bargaining.

The general minimum wage became $2.00 in May 1974 and will go to $2.30 in two steps by January 1976. The farm minimum was instituted in 1967 and is set to gradually increase to the general minimum. It was $1.60 in 1974 and will increase in four steps to $2.30 in January 1978. The cost of an immediate increase in the minimum wage for farm labor to the level of workers in other industries would amount to only about 3 percent of farm net incomes in 1972. Yet the 9 percent rise in wage rates it entails can be expected to account for a decline in employment of 3 or 4 times that amount relative to what otherwise would have occurred. As agriculture becomes mechanized and uses more skilled labor, demand and supply may become much less sensitive to price and the effects of unionization strong, but the lowest wage workers cannot be expected to benefit.

As the decline in agricultural employment continues the problem will shift further from farms to nonfarm rural poverty. Difficulties will arise in responding to those persons who have been most unwilling to move and to give up the old ways. For them the challenge is to create a rural society that can provide a measure of what they seek to retain at the same time as modern changes come about. The problem of raising incomes for those less prone to migrate has been dealt with by the movement of firms to more isolated areas in response to low wages. Public policies have been concerned with facilitating the process, provision of education and transportation have been important elements of those efforts.

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*T.M. Hammond, R. Yadav and C. Vathana, "The Elasticity of Demand for Hired Farm Labor," American Journal of Agricultural Economics, 55, No. 2 (May 1973), pp. 242-245.

We do not know how the large infusion of funds in 1973 affected the low income nonfarm population in the rural economy. However, the events of this period provide a natural experiment that will make it possible to investigate whether sums which are far larger than ever approached by public programs can make a difference and to determine which public policies can assist in mobilizing resources which are generated by forces independent of poverty concerns to assist in the process of rural development.

A number of special issues arise with regard to low income workers in depressed coal mining areas. Frank Armbruster and Basil Candela have suggested that substantial benefits may accrue for some time as a result of the increase in demand for coal following the 1973 oil price rise.[*] This demand will be greater the harder a policy of energy independerce is pursued. Furthermore, since underground mining is far more labor-intensive than strip mining and located near larger concentrations of poor, enforcement of strong environmental standards would produce a greater impact on the poor.

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[*] Basil Candela, "The Effects of Rising Costs of Energy on the Poor," Discussion Paper HI-2031-D, The Hudson Institute, July 1974.

Part 3

THE GHETTO AND THE ECONOMY

The Ghetto as a Residual

The ghetto is by definition the home of those who have not achieved sufficient economic gains to live in more desirable parts of a city. This feature is apparent in statistics comparing incomes of ghetto and nonghetto residents of the same race and in comparisons of education, occupation, unemployment, etc There are a number of factors suggesting the development of concentrations of economically successful populations may have serious consequences Many speculations are possible. By bringing together undesirable conditions ghettos may operate as a breeding ground for crime and other anti-social behavior. If one's neighbors are likely to find little work, earn low wages, gain little from training and the like then those who have the potential for success may underestimate their own prospects or find it difficult to obtain information, reducing their own chances of success. As the racial composition of central cities changes, housing segregation within the cities becomes less of a problem but those who remain in ghetto areas will even more frequently include persons with the least ability, initiative and hope.

Before we can consider the importance of problems of this kind it is necessary to get some indication of what its size is likely to be. To do this it is necessary to consider the question of how well the ghetto population will respond to conditions created by the continuing growth of the economy. If ghetto residents respond they may still be faced with significant problems of inequality, but the implications of inequality can be very different from those of poverty and inequality.

Secondly we will examine the facts on recent developments in ghetto areas and see how they compare to more conjectual viewpoints.

Returns to Education of Ghetto Residents

The critical issue is the nature of the opportunities facing those who now reside in ghetto areas. In order to consider this issue attention has focused on the differences in earnings among persons at different levels of education. After an analysis of BLS Urban Employment Surveys in 10 ghettos of 8 cities in 1966, Harrison estimated returns of from 3 to 9 cents per hour (1-3%) for each additional year of schooling and, over the entire interval 9-12 years of schooling a gain of only 15 cents per hour. Workers with at least some college, on the average, received only 20 cents more per hour than high school graduates who went directly to work and did not go to college."* Similar findings were reported by Vietorisz and Harrison for Harlem.

More accurate data has been developed in the Census Employment Surveys of urban poverty areas conducted in conjunction with the 1970 Census of Population. Table 11 shows the data for the seven poverty areas in New York City which include three of the areas studied by Vietorisz and Harrison. Increments to earnings are substantially greater than those cited from the BLS data.

There is also a major conceptual problem with the implications which Harrison and others draw from this data. The analysis is limited to comparisons of persons residing in ghetto areas at a given time. But

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*Bennett Harrison, "Education and Underemployment in the Urban Ghetto," American Economic Review, 62, No. 5 (December, 1972), p. 808. Also see Bennett Harrison, Education, Training and the Urban Ghetto, Baltimore: The Johns Hopkins Press, 1972.

**Thomas Vietorisz and Bennett Harrison, The Economic Development of Harlem, New York: Frederick A. Praeger, 1970.

TABLE 11

EDUCATIONAL AND RACIAL DIFFERENCES IN MEDIAN HOURLY EARNINGS OF FULL-TIME WAGE AND SALARY WORKERS, NEW YORK CITY POVERTY AREAS, 1969

Years of School Completed	Total	Black	Spanish
Total	$3.11	$3.20	$2.73
Elementary School			
7 years or less	2.64	2.76	2.48
8 years	2.91	3.00	2.71
High School			
1 to 3 years	3.06	3.07	2.80
4 years	3.34	3.37	2.93
College			
4 years or more	4.00	3.85	3.60

Source: U.S. Bureau of the Census, 1970 Census of Population, Employment Profiles of Selected Low Income Areas, New York, N.Y., All Survey Areas, PHC (3)-2, Washington: U.S. Government Printing Office, January, 1972, Table 9.

persons who succeed in increasing their earnings through greater education are more likely to move out of ghettos. As a result we observe a group which is increasingly biased toward low earners as we move up the education scale.

If we wanted to get an accurate picture of the returns to increased education facing a group currently residing in a ghetto it would be more appropriate to follow a cohort of persons through time. Short of doing that, some indication of the returns to ghetto residents can be obtained by examining data on income differences for all residents of a city. This method is unlikely to provide an accurate indication for white ghetto residents. Whites are older arrivals to the city, are chronologically older and because of less discrimination represent more of a residual already. We can however obtain a useful picture for blacks and Spanish-Americans.

Table 12 shows data for the New York City Standard Metropolitan Statistical Area. Gains in income with education are small below high school graduation, typically about 2 percent per year for both blacks and Puerto Ricans. There is a large jump at high school graduation compared to dropouts--18 percent for blacks and 13 percent for Puerto Ricans. Returns continue to be substantial thereafter. However, income does not rise with education as rapidly as for whites and the ratios of the incomes of minorities to those of the total population decline. A similar pattern holds in data by occupation in Table 13. There are small differences among service workers, laborers and operatives and larger gains thereafter, but relative earnings decline with higher occupation status. The differences

TABLE 12

EDUCATIONAL AND RACIAL DIFFERENCES IN MEAN INCOME OF 35-44 YEAR OLD MALES WITH INCOME, NEW YORK STANDARD METROPOLITAN STATISTICAL AREA, 1969

Years of School Completed	Total	Black	Puerto Rican Birth or Parentage	Ratio of Black to Total	Ratio of Puerto Rican to Total
Total	$11,627	$6,380	$5,910	.55	.51
Elementary School					
Less than 5 years	5,873	4,979	4,756	.85	.81
5 to 7 years	6,448	5,103	5,108	.79	.79
8 years	7,259	5,450	5,497	.75	.76
High School					
1 to 3 years	8,518	5,608	6,021	.66	.71
4 years	10,270	6,614	6,772	.64	.66
College					
1 to 3 years	13,020	7,604	9,121	.58	.70
4 years	18,491	8,647	11,851	.47	.70
5 years or more	20,976	10,383	12,526	.49	.60

Source: 1970 Census of Population.

TABLE 13

RACIAL DIFFERENCES IN MEDIAN EARNINGS OF MALES IN THE EXPERIENCED CIVILIAN LABOR FORCE WORKING 50 TO 52 WEEKS, BY NON-FARM OCCUPATION NEW YORK STANDARD METROPOLITAN STATISTICAL AREA, 1969

Occupation	Total	Black	Puerto Rican Birth or Parentage	Ratio of Black to Total	Ratio of Puerto Rican to Total
All Occupations*	$ 9,447	$6,811	$5,885	.72	.62
Professional, technical and kindred workers	13,062	9,051	8,328	.69	.64
Managers and administrators, except farm	13,465	8,378	7,392	.62	.55
Sales workers	10,949	6,745	6,047	.62	.55
Clerical and kindred workers	8,034	6,814	6,073	.85	.76
Craftsmen and kindred workers	9,431	7,335	6,767	.78	.72
Operatives, except transport	7,218	6,213	5,373	.86	.74
Transport equipment operatives	8,162	7,327	6,179	.90	.76
Laborers, except farm	7,478	6,397	5,665	.86	.76
Service workers	6,934	5,979	5,427	.86	.78
Private household workers	4,585	4,177	3,807	.91	.83

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*Includes a small number of farmers and farm workers.

Source: 1970 Census of Population.

in earnings largely reflect discrimination and effects of past discrimination such as parents' education. While ethnic differences are quite general and important the increments in earnings with skill are large when not masked by artificial geographic restrictions. The perspective of the ghetto gives a misleading impression of opportunities for increasing incomes.

The Dual Labor Market Hypothesis

Another attempt to analyze the way in which economic growth is transmitted to low income workers in labor markets is centered around what has been called the "Dual Labor Market hypothesis" (DLM). The most extensive statement of this "theory" and the evidence for it has been presented by David Gordon.[*] Sherwin Rosen provides a concise description in reviewing Gordon's book:

> The fundamental insight of dual-labor-market literature is that the nature of work activities and job structure are endogenously determined...Profit-seeking employers structure work activities within their technological constraints to take advantage of existing supplies of personal characteristics of workers. To this is added a kind of recursive feedback mechanism in which workers' tastes and job-related personal characteristics are affected, in an unspecified manner, by the nature of their work activities. Finally, technological and product-demand conditions require a class of inherently unstable short-term jobs to serve buffer functions. The market becomes segmented between job types offering chances for advancement and large lifetime earnings and those offering high turnover and little in the way of future success.[**]

Rosen notes that the DLM analysis was developed as a paradigm and may not appropriately be called a theory. It appears to be equally misleading to refer to the analysis as a hypothesis. For the most part it is descriptive in nature and most of the limited empirical work which has been done is concerned with validating the description rather than predicting behavior.

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[*] Theories of Poverty and Unemployment, Lexington, Mass.: D.C. Heath and Company, 1972 Also see Peter Doeringer and Michael Piore, "Unemployment and the Dual Labor Market," The Public Interest, 38 (Winter, 1970), pp. 67-79.

[**] Journal of Political Economy, 82, No. 2, Part 1 (March/April, 1974), p. 438.

DLM places strong weight on the separation between primary and secondary jobs. Low income workers are viewed as being permanently relegated to secondary labor market jobs. Subscribers to this view would change the nature of the low income jobs themselves to improve what is seen as the effects of the jobs on worker productivity and advancement.

Proving the hypothesis of a feedback effect of jobs on workers will always remain intractable. Workers with the least ability and initiative will take jobs with the least desirable earnings and working conditions. Available measures will always imperfectly reflect variations in ability and the effects of unmeasured ability differences can easily be confused with effects of job characteristics.

Tests carried out to date have focused much of their attention on the definition of secondary jobs. The definitions provide a methodology which may be of value in analyzing questions of discrimination and occupational mobility. However, the studies have not distinguished findings which could not be predicted by preexisting models. Gordon attempts only one test in his dissertation, a highly unconvincing hypothesis about the degree of association of low wages and other characteristics across occupations,* and provides no tests in his book.

One of the main tenets of the dual labor market literature has been refuted by the findings of Flanagan. Flanagan found that high job turnover was associated with higher rather than lower wage rates among 45-59 year olds and that the percentage gain in wages with job changes was double for blacks what it was for whites.[*] Lowell explored several patterns emphasized by the DLM literature. She worked with a classification of occupations according to earnings using New York City data. There was substantial mobility between jobs in the two sectors within a year's time. "Most damaging to the dual labor market theory was our finding that the same model of wage rate determination applied to the primary and secondary markets; productivity differences were translated into wage differences and differences in personal characteristics mattered much more than institutional differences in the industry and occupation of the job."[**]

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*David Gordon, "Class, Productivity and the Ghetto: A Study of Labor Market Stratification," unpublished Ph.D. dissertation, Harvard University, 1971.

The issue of differences in returns to investment in human capital between persons in different sectors is critical to the question of income growth. DLM has placed great emphasis on the wage differences by education within ghetto areas which were previously overestimated and are subject to the bias from selective migration noted earlier. Furthermore, the absence of empirical studies has led to undue emphasis on the findings of Andrisini within the Ohio data.[***] Andrisini examined changes over two years in a sample of 14-24 year old males with 12 years of schooling or less. Education was found to have no effect on the likelihood of a primary sector job for blacks while it showed an important effect for whites. This finding is explainable by the tendency for blacks to show occupational advance at a later age than whites. Evidence on this point was presented earlier in this paper. The result is that Andrisini's findings only provide support regarding the timing of the changes and do not accurately reflect the role of education in occupational advance.

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[*] Robert Flanagan, "Labor Force Experience, Job Turnover, and Racial Wage Differentials," The Review of Economies and Statistics, 56, No. 4, pp. 521-529.

[**] Ruth Fabricant Lowell, "Dual Labor Markets in New York City," New York City Human Resources Administration, 1974, Summary, p. 4.

[***] Paul Andrisini, "An Empirical Analysis of the Dual Labor Market Theory," Center for Human Resource Research, University of Ohio, 1973. For contradictory evidence from the same source see Andrew Kohen, "Determinants of Early Labor Market Success Among Young Men: Race, Ability, Quantity and Quality of Schooling," 1973.

DLM is also contradicted by the success of certain population groups. Black females have advanced rapidly and almost caught up to white females in earnings. Furthermore, Spanish-Americans show evidence of very rapid assimilation.

Much of what DLM seeks to deal with is the result of racial discrimination, both as practiced currently and its historical vestiges. To date there is little evidence that anything can be gained by the dual labor market approach over efforts to deal with discrimination more directly. The introduction of renewed emphasis on institutional factors may have some value but it has not yet contributed any major new quantitatively important implications.

The challenge of the dual labor market hypothesis also has been found unconvincing in recent reviews of the arguments and the evidence by Cain and Wachter.* We treat the failure to demonstrate its validity as significant evidence that ghetto residents can be expected to respond to the growth of opportunities to earn income. The ghetto will continue to create special problems but the size of that population will be far smaller than if the ghetto had not continued to play its traditional role for those who pass through and move up.

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*Glen Cain, "The Challenge of Dual and Radical Theories of the Labor Market to Orthodox Theory," Unpublished manuscript, University of Wisconsin, January, 1975 and Michael Wachter, "Primary and Secondary Labor Markets: A Critique of the Dual Approach, Brookings Papers on Economic Activity, 3 (1974), pp. 637-680.

Ghetto Trends

Trends in urban ghettos can be seen from an analysis of 50 areas classified as "major concentrations of poverty" after the 1960 Census and "poverty neighborhoods" after 1970. These have been selected by the U.S. Department of Housing and Urban Development as made up of contiguous Census tracts with at least 20,000 people, at least 20 percent of the population below the poverty line and in concurrence with local concepts of neighborhood. The figures represent simple averages of the mean values of each neighborhood.

The average poverty neighborhood experienced a decline in population of 27 percent between 1960 and 1970 (Table 14). The proportion of the population white fell from 40 to 30 percent as nonaged whites moved out rapidly. At the same time the number of single person households grew as the share of aged in the population increased.

Between 1959 and 1969 median family income in poverty areas rose 46 percent while the Consumer Price Index rose 26 percent. The real rate of increase was 16 percent or 1.5 percent per year (Table 15). During the same period the real median income of all U.S. families increased 38 percent or 3.3 percent per year. The average for all nonwhite U.S. families was 69 percent or 5.4 percent per year. The contrast is even more marked for individuals. The median income in the ghetto areas rose 41 percent, 12 percent after price changes or 1.1 percent per year. Nationally the median income of unrelated individuals increased 50 percent

TABLE 14

CHANGES IN 50 SELECTED POVERTY NEIGHBORHOODS, 1960-1970

	1960	1970	Percent Change
Total Population	58,544	42,863	-27%
Percent White	40.4%	30.1%	-34%
Percent Black	51.7%	59.7%	+15%
Percent Spanish Origin or Surname	6.5%	10.3%	+58%
Percent of Single Person Households	26.0%	37.8%	+45%
Median Family Income (prior year)	$ 4,364	$ 6,362	+46%
Median Income of Unrelated Individuals (prior year)	$ 1,764	$ 2,495	+41%
Median Rent	$ 64	$ 76	+18%
Median Value of Owner-Occupied Units	$ 11,243	$ 13,366	+19%
Number of Housing Units	18,768	16,044	-15%
Vacancy Rate	8.6%	11.5%	+34%
Percent of Units Lacking Complete Plumbing	20.1%	10.3%	-48%
Percent of Units with More Than 1 Person per Room	18.5%	15.2%	-18%

Source: John Weicher, 'The Causes of Housing Improvement in Low-Income Neighborhoods," Paper Presented at the Annual Meetings of the Southern Economic Association, November, 1974.

TABLE 15

AVERAGE ANNUAL RATES OF GROWTH OF REAL MEDIAN INCOME OF FAMILIES AND INDIVIDUALS IN 50 POVERTY NEIGHBORHOODS AND IN THE U.S., 1959-1969

	Families	Unrelated Individuals
50 Poverty Neighborhoods	1.5%	1.1%
U.S.--All Races	3.3	4.1
U.S.--Nonwhite	5.4	4.7

Source: Table 1 and U.S. Bureau of the Census.

or 4.1 percent per year. For nonwhite unrelated individuals it rose 58 percent or 4.7 percent per year.*

With population declining and purchasing power growing very slowly, the median rent and the median value of owner-occupied units increased by one-fifth, less than the rise in the cost of living (Table 13). But as the number of housing units decreased and the vacancy rate rose, housing conditions tended to improve. The proportion of units lacking complete plumbing, for example, fell from 20 to 10 percent.

The patterns of neighborhood decline and housing abandonment have been associated with a growing gap in income between the populations of the older ghettos and the rest of the economy. Yet some real improvement in income and housing has taken place. The patterns reflect the out-migration of the more successful of the earlier residents, but they do not reveal the growing boundaries of the ghetto as neighboring areas age and begin to decline.

As the aged are replaced with younger populations the older ghettos will become even more racially unbalanced. As the gap in income grows they will contain larger numbers who have been left behind. But at the same time the proportion of the population which remains in older ghettos will become smaller and smaller.

There has been a great deal of concern about the adverse effects of ghetto conditions in breeding hopelessness. Some of the factors raised have been the acceptance of dependency and the absence of knowledge about job opportunities or potential gains from education. But the history of American Ghettos has been that while such factors may exist there is an even stronger push to create a better life. The poor conditions themselves heighten the desire to advance and move out. The statistical analysis of occupational mobility of black males presented in the next chapter is consistent with the view that in the aggregate there are no powerful net effects of ghetto living on upward mobility.

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*The increases in income in ghetto areas will tend to be overstated to the extent the problem of population undercount was more serious in 1970 than 1960. Furthermore the period covered reflects unusually large gains because of cyclical influences. However, as a measure of the growth of incomes of persons who remained in the ghettos to the extent individuals who moved out tended to be of above average income.

We do not wish to suggest that life in the ghetto is any more pleasant than it is. But the great difficulties themselves have been a major incentive for creating something better. This suggests that the proportion of persons living in ghetto conditions can better be reduced by policies which make it easier to move out then by those which perpetuate life where many of the worst conditions are likely to persist.

As more black and Spanish-Americans leave the older ghetto areas the question of the nature of the cities which are developing begins to overshadow issues regarding the condition of their poorest parts. These issues are examined in the discussion of poverty and urban development.

APPENDIXES

Appendix A

SOME CONCEPTUAL ISSUES RELATING TO DISCRIMINATION, PRODUCTIVITY AND THE OCCUPATIONAL DISTRIBUTION OF BLACK MALE EMPLOYMENT

There is a large literature which examines the contribution of various factors to occupational mobility and the consequences of occupational mix for income differences among racial groups. Yet there never has been a very satisfactory explanation of the persistent difference in occupational distribution of employment between black and white males. Any explanation which effectively deals with the distribution of employment should also be able to explain patterns which appear in unemployment and wage rates. The purpose of this section is to suggest the outlines of such an explanation. In doing so it will be useful to draw on a number of elements of human capital theory, some of which have been developed only very recently.

Following Becker the extent of an employer's taste for discrimination can be represented in monetary terms as the amount by which a black's wage would have to be lower for the employer to be equally willing to hire him.* If discrimination were greater in higher paying occupations we would expect to find blacks underrepresented there. This occurs because blacks would receive less of an earnings premium than whites for additional skills which were acquired. But we have no reason for believing that tastes for discrimination are greater in the better paying jobs, and unless that is the case the standard theory does not provide an explanation of the occupational pattern which prevails.

In a recent article Sherwin Rosen has moved thinking on the subject forward by posing a model in which discrimination occurs in training.

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*Gary Becker, The Economics of Discrimination, Chicago: University of Chicago Press, 1957.

Some jobs provide greater opportunities to acquire skills and the degree of exclusion on the basis of race in an occupation depends on its training advantages. Rosen points out that this view is consistent with Thurow's evidence which shows that the relative difference in earnings between black and white males tends to increase with age.*

A more complete explanation can be obtained by extending the framework to take into account the job search process, both from the perspective of the employee and the employer. The search process occurs in a world in which there are racial differences in productivity due to differences in quantity and quality of schooling, access to training, parents' education, etc.,and what we observe is the combined effects of both real productivity differences and discrimination under conditions of imperfect information about productivity. In a market with perfect information and perfectly flexible wages the wage difference between blacks and whites would fully compensate the employer for any difference in productivity plus any taste for discrimination. When workers differ greatly in skills and employers have imperfect information a very different process operates, however.

Employers will establish wage levels which are sufficient to compensate employees who possess the average skill level desired; they will then search for employees who meet the skill requirements.** The wage for a skill level may vary with market conditions but the relative wage levels at different skill levels--the wage structure remains fixed.

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*Sherwin Rosen, "Learning and Experience in the Labor Market," Journal of Human Resources, 7, No. 3 (Summer, 1972), pp. 326-342. Rosen notes that one implication of the model is that wage subsidies which reduced the difference in earnings between skill levels would tend to increase the employer's incentive to train blacks relative to whites.

**See E.S. Phelps, "The Statistical Theory of Racism and Sexism," American Economic Review, 62 (September, 1972), pp. 659-661 and Dennis Aigner and Glen Cain, "A Statistical Theory of Discrimination in Labor Markets," Discussion Paper, University of Wisconsin Institute for Research on Poverty, October, 1974.

If blacks have lower skills they will have a lower probability of being hired for more skilled jobs. The employee is willing to accept a higher unemployment rate in a job with a higher wage since the occupation decision is based on an expected earnings calculation which depends on both the wage rate and hours of work. As a consequence blacks will tend to have higher unemployment rates and lower labor force participation rates than their white counterparts in higher skilled jobs. Wage differences will tend to be smaller between blacks and whites within an occupation than would be expected on the basis of the effects of discrimination and productivity. In the absence of good information on the part of employers blacks are provided some opportunity to obtain higher wage jobs, but only on a less regular basis.

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*For example, see Masanori Hashimoto, "Wage Reduction, Job Segregation and Specific Human Capital," Discussion Paper No. 74-19, University of Washington Institute for Economic Research, November, 1974.

Appendix B

THE EFFECTS OF DISCRIMINATION AVERSION

The theory of discrimination as developed by Becker focuses on the effects of a taste for discrimination by employers on their willingness to hire blacks.* Recently it has become necessary to also consider the effects of discrimination on the behavior of the workers who are discriminated against. During the 1960s and early 1970s there appears to have been a rapid change in attitudes of blacks, with an increasing tendency to reject the unequal treatment of blacks by society. We denote the degree of unwillingness to accept unequal treatment as "discrimination aversion." The implications of the employees' tastes for discrimination aversion together with the employer's taste for discrimination result in an even stronger effect of discrimination on black/white income differences than predicted based on the standard theory.

Becker represented the strength of an employer's taste for discrimination between blacks and whites by a coefficient indicating how much lower a wage a black employee would have to accept in order to have an equal chance of being hired. In the same way we define the strength of a black employee's aversion to discrimination as the amount of earnings he or she is willing to forego in order to avoid accepting a lower wage than a white employee performing the same work.

Consider the following set of conditions; 1) A black employee chooses between a higher skilled job J_1 and a lower skilled job J_2. 2) The black employee receives the same earnings as a white employee in J_2. 3) J_1 pays a higher wage to the black employee than he can receive in J_2. 4) J_1 pays the black employee less than is paid to a white employee doing comparable work.

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*Gary Becker, "The Economics of Discrimination, Chicago: University of Chicago Press, 1957. Also see Ray Marshall, "The Economics of Racial Discrimination: A Survey," Journal of Economic Literature, 12, No. 3 (September, 1974), pp. 849-871.

In Figure B-1 we plot the difference in earnings from whites which the black employee would be willing to accept in J_1 in order to avoid the lower earnings in J_2. This discrimination aversion function (F) is not a constant but varies with the opportunity cost of accepting employment at a discriminatory wage. In the range OA the black employee is unwilling to accept a discriminatory hire at all as long as the additional earnings he can obtain in J_1 is lower than the amount A. Beyond that point the difference in earnings from a white he is willing to accept will depend on how much more he can earn in J_1 than in J_2. As the difference in earnings among races in J_1 becomes greater he will require more of a gain over J_2 in order to accept discriminatory earnings. Beyond some point he may be totally unwilling to accept any increase in the racial difference in earnings. This is shown as the horizontal portion of the discrimination aversion function.*

Figure B-2 shows the market for J_1. The supply of black workers (S) is an increasing function of the earnings of blacks, holding constant the difference in earnings between blacks and whites.** The demand curve

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*The analysis can easily be generalized to the case where the less skilled occupation pays blacks at a lower rate than whites. In that case the vertical axis in Figure 1 would be redrawn to represent the difference between the racial difference in earnings in J_1 and the racial difference in earnings in J_2.

**The supply function takes into account the effect of rising earnings in J_2 as blacks withdraw. A supply curve holding constant alternative earnings would be more steeply sloped.

FIGURE B-1

DISCRIMINATION AVERSION FUNCTION

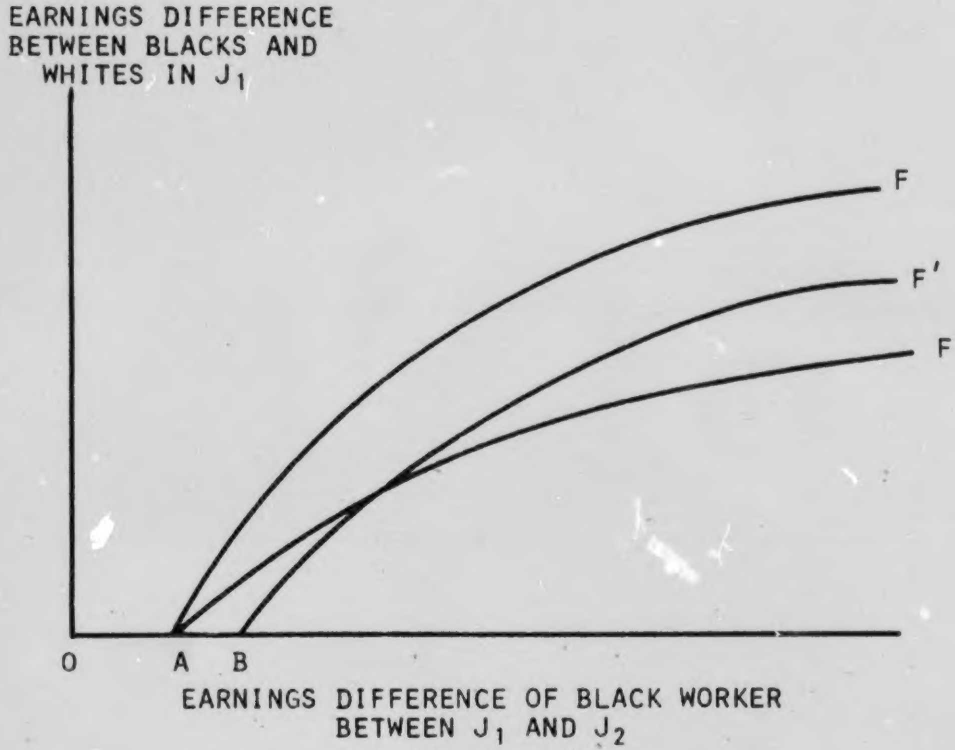
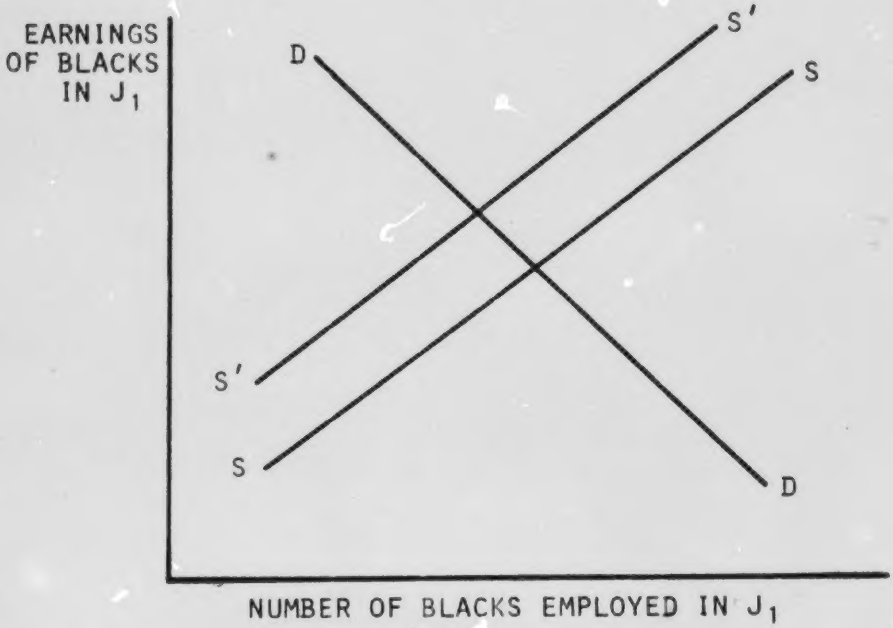

EARNINGS DIFFERENCE BETWEEN BLACKS AND WHITES IN J_1
F
F'
F"
O
A
B
EARNINGS DIFFERENCE OF BLACK WORKER BETWEEN J_1 AND J_2

FIGURE B-2

MARKET FOR J_1



for black labor (D) is drawn to reflect an employers' willingness to hire larger numbers of blacks when the earnings differential is large.

The effects of an increase in discrimination aversion of employees can now be traced. This is represented by a shift of each worker's discrimination aversion function to the right (F' or F''). The supply curve shifts to the left (S') since black employees require greater compensation to accept a given amount of discrimination. The result is to raise the earnings of blacks who continue to work in J_1 but to lower the number who do so. At the same time there is a shift to the right in the supply of black employees to J_2 with a decline in their earnings and an increase in employment. Thus, the effect of an increasing desire to avoid accepting wage discrimination is to reduce the wage difference for those who continue to work at the same job, but to reduce the number receiving the lower difference and increase the wage difference in the alternative job. Earnings are also reduced through the shift in employment since blacks receive less in J_2 than J_1.

While the net effect on black earnings depends on the supply and demand parameters in each market, the existence of a wage difference between occupations means that frequently a decline in black earnings will result along with the decline in occupational status. The expected earnings from J_2 depends on both the expected wage while working and the expected percentage of the time working. As a result employees willing to take lower wages in order to avoid discrimination can be expected to have higher unemployment rates as well as lower earnings.*

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*One area for expanding such a model would be to consider the feedback mechanism by which employers' tastes for discrimination are

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formed. We know very little about this process and the lines of impact suggested are quite speculative. The attitudes of an employer toward black employees may be determined in part by his view of them because they are low paid. If blacks were unwilling to accept unequal pay an employer might reduce his discrimination coefficient, producing a rise in the demand for black workers relative to whites in the same job. A similar mechanism might operate as overall black education increases.

Appendix C

THE GHETTO FROM THE PERSPECTIVE OF THE UNDERDEVELOPED NATION MODEL

W. Arthur Lewis' theory of economic development with unlimited supplies of labor is interesting because it points up the difficulties of a black economic development strategy. In the basic outlines of the theory the economy is divided into a growing "capitalist sector" and a low productivity "subsistence sector" (primarily agriculture). Earnings in the capitalist sector are determined by those in the subsistence sector, with some differentials necessary to induce mobility. Economic growth comes about through the accumulation of capital and a high rate of investment. In underdeveloped countries, Lewis maintains, workers' savings are very small and practically all saving is done by people who receive profits on rent. In part an increase in savings comes about through an enlargement of the capitalist class but a major part of the increase in savings arises from an increasing in equality of income between the capitalists and the rest of society. Inequality leads to high savings and reinvestment of the surplus earned from earlier investments.*

If we try to apply this model to black capitalism we immediately must confront the fact that there is no separate black economy for which such a model will work. Black entrepreneurs depend to a substantial extent on the availability of capital from the larger society. The savings rate of the larger society is independent of their aims and opportunities. However, there may be some possibilities for changing the conditions under which money flows to them.

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*W. Arthur Lewis, "Economic Development with Unlimited Supplies of Labour," The Economics of Underdevelopment, edited by A.M. Agarwala and S.P. Singh, New York, Oxford University Press, 1963.

It is reasonable to expect that funds are color blind and will respond to broad opportunities for high return. At the same time an individual venture may be underfunded because it is evaluated as part of a broader class of investments with a lower return. If projects are small when black capitalism is just developing it may be particularly uneconomical for lenders to try to differentiate projects closely.* Investment opportunities are not likely to have the large profit potential that breakthroughs in technology can afford in underdeveloped areas.

The model also differs when we consider the process of reinvestment, black capitalists may be more likely to invest in black enterprises because of greater familiarity with markets and business associates. But again we run into the competition for funds of broader opportunities in society which have no unusual effect on entrepreneurship and employment of blacks. Lewis makes clear that the members of the capitalist class in underdeveloped nations will make decisions based on the purest profit calculations without much concern for social goals and there is little reason to believe black capitalists to be much different. While some black organizations may insist on reinvestment in black enterprise, their growth will be reduced if profits are sacrificed for such a goal. It is only if by reliance on better information or lower costs of obtaining information they can consistently discover profitable ventures that outsiders have overlooked that they can be expected to prosper. But this implies more careful discerning using business criteria rather than an intermingling of business and social criteria.*

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*See Edmund S. Phelps, "A Statistical Theory of Racism and Sexism," American Economic Review, 62, No. 4, pp. 659-661.

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*The experience of investment in minority enterprises is discouraging, even after allowing for improvement through better selection of investments. See Timothy Bates, "An Econometric Analysis of Lending to Black Businessmen," The Review of Economics and Statistics, 55, No. 3 (August, 1973), pp. 272-283.

RACIAL DIFFERENCES IN OCCUPATIONAL MOBILITY OF MALES*

Introduction

Analyses of earnings differences between black and white males have typically shown that one-third or more of the gross difference can be attributed to occupational composition.* Such comparisons understate the importance of occupational opportunity since annual earnings of black males tend to be reduced further by a pattern of lower labor force participation and higher unemployment than whites which is greatest at the higher skill levels. As educational equality increases in the future occupation may account for an even greater share of the earnings difference.

The present analysis seeks to determine the extent of equality of opportunity among males of different races. The value of such an effort lies not only in its implications for differences in earnings directly associated with occupation but also because many of the forces which affect the occupational composition of employment have an important impact on racial differences in earnings within occupations. The extent of equality of occupational mobility of black and Spanish-American males is measured and changes from patterns of the past are examined. Causes of differences in occupational mobility between black males and all males are investigated in order to determine the importance of remaining barriers and develop evidence on the impact of potential policies.

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*In one recent study whose findings are representative, Chiswick and others standardized using over 400 occupations with the 1970 Census 1/100 Public Use Sample. Thirty-six percent of the difference in hourly earnings between 25-54 year old black and white males was associated with occupation mix. Part of this difference was accounted for by education. One-fifth of the earnings difference in hourly earnings was associated with occupational distribution for persons with education less than college completion and 36 percent for college graduates and above. See Barry Chiswick, James Fackler, June O'Neill and Solomin Polachek, "The Effect of Occupation on Race and Sex Differences in Hourly Earnings," Review of Public Data Use, 3, No. 2 (April, 1975), pp. 2-9.

Relationships Among Mobility Rates

One way to measure equality of opportunity is to determine whether persons in different ethnic groups have the same probability of occupational advance. The 1970 Census of Population provides a matrix which indicates the labor force status and major occupation group of employed persons age 25 and over by race and sex in 1970 according to the labor force status and occupation of the same individuals in 1965. From these tables it is possible to calculate the percentage of persons in one occupation in 1965 who moved to a higher skilled, higher paying or more prestigious occupation between 1965 and 1970. Measures of occupational mobility have been calculated for all males, white males, black males and Spanish-American males for all 50 states and the District of Columbia.*

Two types of occupational moves were examined. For the first the universe consists of all persons who were employed in blue collar and service jobs in both 1965 and 1970. The variables computed measure the proportion of persons who were in blue collar occupations other than craftsmen in 1965 but were craftsmen in 1970. In the second set of measures the universe consists of all persons who were employed in both 1965 and 1970. The variables derived measure the proportion of persons who were blue collar and service workers in 1965 but were white collar workers in 1970.

Three measures of mobility were calculated for each type of move. Gross inmobility for craftsmen indicates the proportion of blue collar workers who were not craftsmen but became craftsmen between 1965 and 1970. Gross outmobility for craftsmen measures the proportion of all blue collar collar and service workers who were craftsmen in 1965 but in other blue collar and service jobs in 1970. Net mobility for craftsmen measures the additional number of persons who entered or left the occupation craftsmen between 1965 and 1970 as a percentage of all persons who were blue collar and service workers in both years. Net inmobility is the difference between gross inmobility and gross outmobility. A positive net mobility rate indicates an increase in the proportion of blue collar and service workers who were craftsmen. Gross inmobility, gross outmobility and net mobility for white collar workers are similarly defined to reflect shifts from blue collar to white collar jobs. The mobility measures are presented in the Appendix.

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*The period reflects a combination of an unusually tight labor market for all but the last year and an incomplete cyclical decline. The years 1965 and 1970 had roughly the same unemployment rates, 4.5 and 4.[illegible] percent respectively. However, 1965 was in the midst of a long economic expansion and 1970 was a year of declining production. The unemployment rate rose from 3.5 percent in 1969 to 5.9 percent in 1971.

These measures lend themselves easily to tests of equality of opportunity. If persons of each ethnic group were distributed similarly according to tastes and abilities we would expect to find that an increase in employment in an occupation was filled by the same proportion of members of each ethnic group.* If opportunity were equal a one percent increase in the gross inmobility rate for all ethnic groups combined would be associated with a one percent increase in the net inmobility rate for each ethnic group. In a subsequent part of the analysis we will consider the effects of additional explanatory variables. First, however the relationship between mobility of each ethnic group and mobility of all ethnic groups will be examined.

Once persons can no longer freely return to an occupation if they leave it temporarily, they may be less likely to leave it. If this occurs the gross outflow rate for minorities will respond less than proportionally to the gross outflow rate for all persons. If such an effect does occur then it becomes particularly critical to examine net inmobility, the difference between the gross inflow and gross outflow rates, in order to determine how much of the gross inmobility represents a real gain.

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*Except for differences attributable to random variation.

The net mobility rate is based on job changes during the period 1965-1970 and provides a measure of current opportunity. The cumulative effects of opportunities over a longer period of time are reflected in the proportion of persons of each ethnic group currently in an occupation, The relationship between the proportion of minority members currently in an occupation and the proportion of all persons in the occupation provides a measure of the average response in the past. If opportunities improved over time the response of net mobility of minorities to net mobility of all persons would tend to be greater than the response of the level of minorities in the occupation to the level for all workers.

In each case the independent variable is the mobility rate of all persons and the dependent variable is the mobility rate for the ethnic group indicated. Where gross inmobility or gross outmobility are used the percent of persons in the occupation in 1970 is included as an additional independent variable. The purpose of including the level variable in the analysis of occupational change is to hold constant any tendency for mobility into and out of an occupation to be particularly great when an occupation is relatively large.*

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*This would be expected to occur, for example, if the probability of an individual changing occupations was independent of his initial level.

In the analysis of movement into craftsmen the observations for each state are weighted by the number of blue collar and service workers. The number of persons employed in all occupations is used as the weight in the analysis of white collar mobility. In each case the weights are those of the race to which the equation applies. This procedure takes into account the different geographic distribution of ethnic groups and provides a more realistic measure of the opportunities facing each.*

The first three columns of Table I indicate the number of percentage points increase in the proportion of craftsmen for each ethnic group in response to a one percent increase in the proportion of craftsmen for all ethnic groups.** A coefficient of 1.0 implies that males in the ethnic group have the same probability of advancing as males of all ethnic groups. Whites represent a large proportion of the total and in no case is their coefficient significantly different from 1.0. Black males are only half as likely as all males to move into the occupation craftsmen. The coefficient of gross inmobility is .52; its standard error is .06. The coefficient is highly significantly different from both zero and 1.0. Blacks also tend to have lower outmobility than whites, possibly in

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*In effect the response of mobility of a racial group to variation in the general mobility rate is viewed as a weighted average of separate response coefficients in each state.

**The coefficient of determination exceeded .97 in all equations of gross inmobility, gross outmobility and level of percentage in occupation. Five of six coefficients of determination for net mobility fell between .7 and .8 and the sixth was higher.

TABLE 1

MOBILITY COEFFICIENTS

Measure	Craftsmen			White Collar		
	White	Black	Spanish-American	White	Black	Spanish-American
Gross Inmobility	1.039** (.032)	.525** (.061)	.748** (.136)	1.086** (.042)	.334** (.053)	.209** (.056)
Gross Outmobility	.802* (.364)	.631** (.058)	-.059 (.168)	1.166** (.044)	.221** (.037)	.047 (.102)
Net Mobility	1.181** (.109)	.818** (.067)	1.181** (.085)	1.030** (.010)	.845** (.063)	.778** (.064)
Level	1.083** (.008)	.487** (.010)	.767** (.014)	1.077** (.007)	.481** (.019)	.561** (.012)

#Significant at the .05 level on a one tail test.

*Significant at the .05 level on a two tail test.

**Significant at the .01 level on a two tail test.

Note: Standard errors are in parentheses.

direct response to the lower gross inmobility rate. The net mobility rate, which takes both tendencies toward lower inmobility and lower outmobility into account, indicates that blacks still have a lower probability of occupational advance, but the net difference is not as great as the gross difference. The coefficient of net mobility for blacks is .82; it is highly significantly below 1.0.

The estimates for Spanish-Americans are subject to greater sampling variability but useful patterns can nevertheless be derived. (Here the weighting procedure is particularly important in preventing the results from being skewed by unusual observations.) The craftsmen coefficient for gross inmobility of Spanish-Americans is .75. This is significantly different from zero but the difference from 1.0 misses significance at the .05 level. While the estimate is higher than for blacks the standard error is also higher. The difference in gross inmobility between Spanish-Americans and blacks is not statistically different.* Spanish-Americans show a particularly strong tendency to remain as craftsmen after entry into the occupation. The result of this effect is that net mobility of Spanish-Americans is as high as whites.

When the percentage of persons currently in the occupation is regressed on the percentage for each minority group the response coefficients are lower than the corresponding coefficients for net mobility. For blacks the net mobility coefficient is .82 and the level coefficient is .49. For Spanish-Americans the figures are 1.18 and .77 respectively. In both cases the differences are highly significant. The implication of this tendency is that opportunity for occupational advance was substantially greater in the period 1965-1970 than in the span of preceding years.

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*The pooled standard deviation calculated on the assumption of independence is .15.

In the case of mobility into white collar occupations the coefficients of the equations for white males are again close to one. Here, however the rates of gross inmobility are very low for minorities, .33 for blacks and .21 for Spanish-Americans. For both ethnic groups the rates of outmobility are very low. The result is a pattern of net mobility which indicates substantial, although significantly less than proportional responses. The net coefficient is .84 for blacks and .78 for Spanish-Americans.

Again the coefficients in the level equations which indicate the relationship between the proportion of males of all races in white collar occupations and the proportion for all ethnic groups are low. Comparison with the coefficients for net mobility indicates that mobility in the period studied was substantially greater than in the past.

Viewing the responses of mobility in each ethnic group to overall mobility as an average of separate response rates in each state we can ask how the responses would differ if minorities had the same geographic distribution as whites. This is accomplished by reestimating the equations in Table 1 weighing the mobility rates by the numbers of white employed--the weights used in the equations for whites. The results of these calculations for blacks and Spanish-Americans are shown in Table 2.

The net mobility responses of blacks are much higher when the white geographic distribution is used, both in the craftsmen and white collar estimates. This is the result of both higher gross inmobility responses and lower gross outmobility. The relationship among level variables is

TABLE 2

MOBILITY COEFFICIENTS FOR MINORITIES WITH WHITE GEOGRAPHIC DISTRIBUTION

Measure	Craftsmen Black	 Spanish-American	White Collar Black	 Spanish-American
Gross Inmobility	.691[**] (.075)	1.573[**] (.236)	.481[**] (.091)	.478[**] (.121)
Gross Outmobility	-.264 (.318)	.872[**] (.260)	.005 (.151)	.562[**] (.144)
Net Mobility	1.318[**] (.193)	.910[**] (.218)	1.208[**] (.158)	.374[**] (.166)
Level	.501[**] (.013)	.710[**] (.022)	.505[**] (.017)	.570[**] (.028)

[#] Significant at the .05 level on a one tail test.

[*] Significant at the .05 level on a two tail test.

[**] Significant at the .01 level on a two tail test.

Note: Standard errors are in parentheses.

the same as before, suggesting that these differences apply to new opportunities. For Spanish-Americans net mobility into craftsmen occupations is lower but not statistically different from the previous estimate. A large increase in the gross inmobility response is offset by a rise in outmobility. Net mobility also falls in the case of white collar jobs and the difference is substantial. Again, both in and outmobility rise. The data are consistent with a situation in which in predominantly white areas Spanish-Americans are restricted to jobs which have high turnover.

Extensions to Include Other Variables

In this section a number of possible causes of variation in opportunity are examined in an expanded model. Measures of labor force composition, spatial organization of activity, skill level and other conditions are introduced in the analysis of net mobility rates of black males. The correlations among the variables are given in the Appendix. The principal equations are shown in Table 3. The set of independent variables is associated with 94 percent of the variation in mobility into craftsmen occupations and 86 percent of the mobility from blue collar and service to white collar jobs.

The addition of other variables raises the standard errors of the coefficients for net mobility of all males and they are no longer significantly different from 1.0. A successful statistical accounting of sources of differences in opportunity would be expected to produce coefficients which differed from 1.0 by random variation only. The coefficients of net mobility of all males are .93 for craftsmen and 1.20 for white collar. These are not significantly different either from 1.0 or from the gross estimates in Table 1.*

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*An attempt was made to test the effects of employment growth, measured by the percentage change in employment in the state between 1965 and 1970. The mobility rate for the total population reflects opportunities which arise both through turnover and the creation of new jobs. Newly created jobs account for a higher percentage of job openings when rapid growth in employment occurs. If newly created jobs tend to be more open than others the variable would be expected to show an additional impact beyond that of the overall mobility rate.

Employment growth was not statistically significant in the craftsmen runs. Furthermore, in the white collar equations employment growth was highly correlated with the mobility rate for all races and its effects could not be separated. It had the opposite sign than expected and, when it was added, the coefficient and standard error of the mobility rate for all males rose substantially. As a result it was not included in further analysis.

TABLE 3

EXPANDED EQUATIONS FOR BLACK NET MOBILITY

	Craftsmen	White Collar
Net Mobility of All Males	.930** (.097)	1.202** (.243)
Percent of Population Black	-.100** (.035)	-.051 (.031)
Percent of Black Males in Labor Force Age 25-34	.523 (.353)	.274 (.368)
Change in Percent of Labor Force Female, 1960-1970	.041$^{\#}$ (.022)	-.253 (.219)
Change in Percent of Population Foreign Born, 1960-1970	.120 (.098)	.086 (.107)
Trainees as Percent of Nonfarm Employees, 1967-1969	1.171$^{\#}$ (.589)	
Difference in Change in Median Education, 1960-1970	-.067 (.051)	.001 (.050)
Percent in SMSA's of 1 Million or More	.008 (.005)	-.008 (.005)
Percent in Urban Poverty Areas	056 (035)	.053 (.038)
Percent Who Travel to Work by Other Than Auto	-025** (010)	-.005 (.010)
R^2	936	.860

$^{\#}$Significant at the .05 level on a one tail test.

*Significant at the .05 level on a two tail test.

**Significant at the .01 level on a two tail test.

Note: Standard errors are in parentheses.

In the craftsmen analysis a variable was added to test for an effect of unusual growth in the construction industry (not shown). The change in the percent of persons employed in contract construction between 1965 and 1970 had no statistically significant effect.

The relationship of opportunity to racial composition was examined further by including the black percentage of the population in 1960 as an independent variable. There was a highly significant tendency for craftsmen mobility to be low in states with a large percentage of black population. The relationship was in the same direction for white collar occupations but was not statistically significant. The effects of the percent black variable provide further confirmation of the finding noted earlier.

An age variable was introduced to capture the extent of recent gains by young blacks. The coefficients were positive but there was no significant tendency for mobility to be greater in states in which a greater percentage of the black male labor force was in the age group 25-34 years old. It was difficult to sort out the effects of this variable from the effects of a high proportion in poverty areas. When the latter variable was excluded age was highly significant.

It has been suggested that there is less discrimination in government employment. We examined the impact of a growth in the proportion of employment in government in order to determine whether black males who have been less likely to move into government jobs than black females have been influenced enough to affect statewide occupational mobility. The growth of government employment was considered in the case of movement into white collar occupations. It was not found statistically significant (not shown).

Tests were also performed to determine the relationships of changing employment patterns of women and immigrants to the occupational mobility of black males. We would like to determine whether the increase in the percentage of the labor force composed of females between 1960 and 1970 resulted in positions being filled by women which would otherwise have been filled by blacks. But the growth of females in the labor force may also be a sign of lessening discrimination generally. We can get some indication of the relative importance of these forces by comparing the effects of growth of females in the labor force in the craftsmen and white collar tests. Most of the growth of black male white collar employment was in clerical occupations where the competition with females is most direct.

There is a tendency for mobility of black males into craftsmen jobs to be greater in states with large increases in females as a percent of the labor force. The coefficient is significant at the .05 level on a one tail test. There was no significant relationship of female labor force growth to the movement into white collar jobs. This suggests that black males gained from general increases in opportunity that allowed the progress of females to occur, but that these gains were offset by the growth of the female labor force itself in those areas where the competition with females was most direct.

The change in the percent of population who were foreign born between 1960 to 1970 does not test the effects of new immigration on employment of blacks. In nearly all states the proportion foreign born declined during the period, reflecting the movement out of the labor force and declining control of business by the older generation of immigrants. The change in the percentage of the population foreign born between 1960 and 1970 would be expected to reflect any tendency for blacks to do better where the withdrawal of earlier immigrants was most pronounced. The country of origin variable was not statistically significant.

Skill level was represented by the percentage of nonfarm wage and salary workers who received manpower training under the Manpower Training and Development Act between 1967 and 1969 and by the quantity of formal education. The training measure available applied to the entire population rather than to black males. Education was measured by the median number of years of school completed for persons age 25 and over. Training had a positive effect on movement into craftsmen. The coefficient was statistically significant at the .05 level on a one tail test. Considering the measurement difficulties the indication of an impact on occupational mobility for a broad population groups is especially significant.

There was no effect of training on the movement of black males into white collar jobs. This was not unexpected in view of the lack of emphasis of the program in that area. Because of its more limited applicability and the problems raised by the intercorrelation of the training and education variables training has been deleted from the white collar equations.

The median education measure is the difference between the change in median years of school completed between 1960 and 1970 for black males and the change for white males. Education change is measured for employed persons as a whole while net mobility refers to a constant group of persons employed in both 1965 and 1970. The education of the group whose mobility is being studied changed relatively little. The education measure may reflect some assimilation of better educated young persons already in the labor force where education trends are strongest. However, to a large extent it also reflects competition from even better educated new entrants. Because of this and because the occupation gains of the new entrants are not counted the variable does not measure the gains which education produces but only roughly standardizes for the net effects of some of these forces. Furthermore, the education data does not apply to specific occupations. This problem is particularly serious for the tests of craftsmen mobility. The education variable was not statistically significant*

There have been many suggestions that the nature of cities can have important impacts on the economic opportunity of blacks. Both positive and negative aspects of information availability, transportation, legal barriers, etc., have been cited. In one test of these forces we introduced the proportion of the population in Standard Metropolitan Statistical Areas of one million or more persons to examine the effects of large city conditions. There was no significant effect on mobility into either craftsmen or white collar occupations.

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*Some exploration was also made measuring education by the racial difference in the change in the percent completing high school. The education of whites is higher than blacks and the white median is not that different from 12 years in many states. As a result, the increase in the proportion completing high school was far less for blacks than for whites. A high level of this variable therefore tended to occur when whites in a state did worse than whites in other areas rather than when blacks did better. As a result, there was a marginally significant tendency for black mobility into white collar occupations to be worse where the racial difference in growth of high school completion was smallest.

The effect of ghetto residence on occupational mobility was also examined. The Census Employment Survey performed in conjunction with the 1970 Census of Population defines areas based on 1960 data which were likely to contain relatively high proportions of persons with low income. The population of the urban areas in the survey was computed as a percent of each state's total population. There was no significant relationship between occupational mobility of black males and the percent of the population in urban poverty areas. The positive signs of the coefficients appear to derive from the effects of age with which it is correlated.

The proportion of the population which travels to work by methods other than automobile was introduced. This tends to reflect the degree to which a city is spread out and the availability of public transportation. There was no significant effect on mobility of black males into white collar occupations. Furthermore, movement into craftsmen positions tended to be greatest where the reliance on the automobile was most extensive.

In addition, the effect of residential segregation on occupational mobility was examined. The index of segregation originally computed by Taeuber and Taeuber is available for 109 cities in 1970.* The indexes were averaged across cities within each state using the numbers of households as weights. The analysis in Table 3 was replicated for the 36 states for which the measure was available. The results were as follows:

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*Annemette Sorensen, Karl Taeuber and Leslie Hollingsworth, Jr., "Indexes of Racial Residential Segregation for 109 Cities in the United States, 1940 to 1970," Studies in Residential Segregation, No. 1, University of Wisconsin, Institute for Research on Poverty, February, 1974.

Craftsmen	White Collar
.017 (.008)	.010 (.008)

The coefficient of the segregation variable is statistically significant in the craftsmen equation at the .05 level on a one sided test. The estimates for the other variables were very similar to those shown previously.

The segregation index is computed to equal 100 with perfect segregation and zero with no segregation. The statistical results therefore suggest that there may be a catch-up phenomenon in which blacks in states with relatively more people in segregated housing in cities have been moving up more rapidly than others. This too appears to be the result of a high correlation with the age variable.

As an alternative to the linear additive model an interactive model was specified. The expanded set of variables, rather than operating independently of the mobility rate for all males, instead determine the size of the impact which mobility for all males has on mobility of black males. The equation

$$M_B = \alpha + \beta M_A \qquad (1)$$

was previously expanded to

$$M_B = \alpha + \beta M_A + \Sigma \gamma_i X_i . \qquad (2)$$

Instead we specify

$$\beta = a + \Sigma b_i X_i \qquad (3)$$

which when substituted into Equation (1) yields

$$M_B = \alpha + \beta a + a M_A + M_A \Sigma b_i X_i . \qquad (4)$$

These estimates, presented in Table 4, reveal a similar pattern to those in Table 3. The coefficients of determination are .92 and .88. The coefficients of the mobility rates of all males are highly significant but not significantly different from 1.0. The percent black is negatively associated with each mobility rate and significant at the .05 level. The growth in female labor force participation misses significance in the craftsmen runs and is not significant for white collar. The training variable just misses significance at the .05 level on a one tail test. Travel to work is not significant.

TABLE 4

EXPANDED EQUATIONS FOR BLACK NET MOBILITY, INTERACTIVE FORM

	Craftsmen	White Collar
Net Mobility of All Males	$.976^{**}$	1.230^{**}
	(.151)	(.209)
Percent of Population Black	$-.051^{*}$	$-.036^{*}$
	(.023)	(.020)
Percent of Black Males in the Labor Force Age 25-34	.284	.200
	(.242)	(.240)
Change in Percent of Labor Force Female, 1960-1970	.023	.087
	(.014)	(.067)
Change in Percent of Employed Foreign Born, 1960-1970	.053	.084
	(.045)	(.067)
Trainees as Percent of Nonfarm Employees, 1967-1969	.573	
	(.343)	
Difference in Change in Median Education, 1960-1970	.003	.004
	(.022)	(.004)
Percent in SMSA's of 1 Million or More	.003	-.005
	(.003)	(.003)
Percent in Urban Poverty Areas	-.008	.035
	(.021)	(.024)
Percent Who Travel to Work by Other Than Auto	-.004	-.004
	(.021)	(.024)
R^2	.922	.883

[#] Significant at the .05 level on a one tail test.

[*] Significant at the .05 level on a two tail test.

[**] Significant at the .01 level on a two tail test.

Note: Standard errors are in parentheses.

Discussion

We have presented evidence that occupational mobility is much lower for black and Spanish-American males than for whites in response to general opportunities. At the same time mobility appears to be considerably greater than in the past.

We have also presented evidence which suggests that ethnic differences in occupational mobility would be much greater if not for the existence of an adjustment mechanism in which persons with limited chances of occupational entry are less likely to leave an occupation once they have entered it. Such a mechanism would have important implications for understanding the consequences of increases in opportunity. In order to determine the effects of an increase in the initial probability of a minority member obtaining a job on the occupational distribution of minorities it is essential to take into account any tendency for increased gross mobility to be offset by increases in outmobility. Only a portion of the gross gains, possibly a very small one, would show up as a net improvement. Unless any such tendency is included in the analysis it is very easy to overestimate the gains from efforts to place minority employees.

This difference is critical in the comparison between movement into craftsmen jobs and movement from blue collar and service to white collar jobs. While a difference in responses of gross mobility does exist, there is no evidence that net mobility rates into white collar occupations respond any less than do net mobility rates into craftsmen occupations.

Evidence is also provided that minorities tend to have more equal mobility rates in states in which a relatively large share of the population is white. The view has been advanced that the effects of racial discrimination are greater where minorities are more numerous. We cannot distinguish between mechanisms for such an effect with this data but some effect of racial mix does appear to be operating.

There was also a tendency for black males to move most readily into craftsmen jobs in states which showed the greatest growth of female labor force. This suggests that general reductions in discrimination benefitted black males as well as females. But the absence of a relationship for white collar mobility suggests that in white collar occupations the benefits of reduced discrimination are offset by greater competition with females.

The findings are dominated by indications of labor market discrimination. There is no evidence of effects of urban configuration. There is some indication of an impact of manpower training efforts on movement into craftsmen occupations. On the whole the findings suggest continued improvement for black males relative to the past. However, while occupational distributions can be expected to become more alike there will continue to be substantial inequality.

APPENDIX

TABLE A-1

MEASURES OF MOBILITY INTO CRAFTSMEN FROM OTHER BLUE COLLAR AND SERVICE OCCUPATIONS, MALES, BY RACE, BY STATE, 1965-1970

	All				White			
	Gross Inmobility	Gross Outmobility	Net Mobility	Level	Gross Inmobility	Gross Outmobility	Net Mobility	Level
Alabama	6.4%	4.1%	2.3%	39.7%	7.0%	4.4%	2.6%	47.1%
Alaska	7.5	5.4	2.1	49.9	7.7	5.2	2.5	50.1
Arizona	7.3	4.6	2.7	46.0	7.5	4.4	3.1	51.2
Arkansas	6.9	3.9	3.0	40.2	7.4	4.2	3.2	44.5
California	5.5	4.2	1.3	44.0	5.3	4.3	1.0	48.2
Colorado	6.5	4.3	2.2	45.3	6.3	4.4	1.9	47.9
Connecticut	5.4	4.6	0.8	47.0	5.2	4.5	0.7	48.6
Delaware	5.8	2.6	3.2	44.3	2.3	2.5	-0.2	48.6
D.C.	4.0	2.8	1.2	26.0	2.3	3.0	-0.7	47.1
Florida	6.3	4.2	2.1	47.0	6.6	4.5	2.1	55.1
Georgia	6.2	3.9	2.3	40.1	6.9	4.1	2.8	48.1
Hawaii	4.2	2.3	1.9	49.7	4.2	2.1	2.1	50.1
Idaho	7.3	4.9	2.4	43.6	7.3	5.0	2.3	44.1
Illinois	5.8	4.0	1.8	41.1	5.9	0.7	5.2	44.9
Indiana	7.0	4.4	2.6	40.2	7.1	4.5	2.6	41.7
Iowa	6.0	4.7	1.3	40.6	6.1	4.7	1.4	41.0
Kansas	6.4	4.3	2.1	44.9	6.6	4.3	2.3	46.5
Kentucky	7.6	4.6	3.0	39.4	7.8	4.7	3.1	41.3
Louisiana	6.6	3.6	3.0	39.0	7.5	3.6	3.9	46[illegible]
Maine	6.2	4.8	1.4	40.1	6.2	4.8	1.4	40.2
Maryland	4.7	3.4	1.3	45.2	4.6	3.6	1.0	51.4
Massachusetts	4.8	3.9	0.9	41.8	4.8	3.9	0.9	42.4
Michigan	6.5	3.9	2.6	39.6	6.5	4.0	2.5	42.7
Minnesota	6.3	3.8	2.5	44.2	6.3	3.9	2.4	44.6
Mississippi	7.2	3.9	3.3	39.5	8.3	4.2	4.1	48.6
Missouri	5.8	4.1	1.7	41.4	6.0	4.3	1.7	44.4
Montana	7.1	4.7	2.4	45.9	7.0	4.7	2.3	46.2

TABLE A-1

MEASURES OF MOBILITY INTO CRAFTSMEN FROM OTHER BLUE COLLAR AND SERVICE OCCUPATIONS, MALES, BY RACE, BY STATE, 1965-1970 (CONTD.)

	All				White			
	Gross Inmobility	Gross Outmobility	Net Mobility	Level	Gross Inmobility	Gross Outmobility	Net Mobility	Level
Nebraska	6.8%	4.2%	2.6%	44.2%	6.8%	4.3%	2.5%	45.5%
Nevada	6.3	5.0	1.3	39.1	6.1	5.3	0.8	41.0
New Hampshire	6.8	4.2	2.6	43.8	6.8	4.1	2.7	43.8
New Jersey	4.6	3.6	1.0	42.7	4.5	3.6	1.1	46.2
New Mexico	6.6	4.4	2.2	44.3	6.8	4.5	2.3	50.6
New York	4.4	3.4	1.0	38.9	4.5	3.4	1.1	42.6
North Carolina	7.2	3.8	3.4	39.7	7.8	3.9	3.9	44.8
North Dakota	6.5	4.8	1.7	48.4	6.4	4.8	1.6	48.5
Ohio	6.4	4.2	2.2	39.9	6.4	4.3	2.1	42.0
Oklahoma	6.7	4.8	1.9	45.5	6.8	4.9	1.9	47.0
Oregon	6.8	4.7	2.1	39.7	6.8	4.7	2.1	39.9
Pennsylvania	5.3	3.7	1.6	39.8	5.3	3.8	1.5	41.4
Rhode Island	4.6	3.6	1.0	41.6	4.6	3.6	1.0	42.0
South Carolina	7.3	3.8	3.5	40.2	8.2	4.1	4.1	47.5
South Dakota	7.4	4.4	3.0	44.4	7.4	4.4	3.0	44.5
Tennessee	6.2	4.2	2.0	39.9	6.6	4.3	2.3	43.6
Texas	6.4	4.2	2.2	43.1	6.6	4.4	2.2	50.7
Utah	6.8	3.9	2.9	48.6	6.8	4.0	2.8	49.4
Vermont	7.9	4.7	3.2	44.3	7.9	4.7	3.2	44.3
Virginia	5.9	3.5	2.4	42.7	6.4	3.7	2.7	49.2
Washington	6.7	4.0	2.7	44.5	6.8	4.0	2.8	45.0
West Virginia	7.0	3.6	3.4	38.0	7.1	3.6	3.5	38.6
Wisconsin	6.1	4.5	1.6	39.0	6.1	4.5	1.6	39.5
Wyoming	8.0	4.7	3.3	45.1	8.3	5.0	3.3	46.3

TABLE A-1

MEASURES OF MOBILITY INTO CRAFTSMEN FROM OTHER BLUE COLLAR AND SERVICE OCCUPATIONS, MALES, BY RACE, BY STATE, 1965-1970 (CONTD.)

	Black				Spanish-American			
	Gross Inmobility	Gross Outmobility	Net Mobility	Level	Gross Inmobility	Gross Outmobility	Net Mobility	Level
Alabama	4.8%	3.0%	1.8%	17.4%	4.9%	3.2%	1.7%	45.5%
Alaska	0.0	8.9	-8.9	63.4	0.0	11.5	-11.5	11.5
Arizona	8.1	.6	7.5	11.9	6.4	4.2	2.2	29.8
Arkansas	4.2	2.3	1.9	16.8	10.9	0.0	10.9	32.0
California	5.5	3.0	2.5	22.5	6.5	4.1	2.4	32.6
Colorado	11.2	4.5	6.7	38.6	6.6	4.0	2.6	29.0
Connecticut	6.7	5.0	1.7	25.8	9.5	5.4	4.4	29.2
Delaware	4.9	2.4	2.5	18.2	9.7	13.3	- 3.6	47.2
D.C.	4.3	2.8	1.5	22.8	2.3	4.3	- 2.0	43.2
Florida	5.0	3.0	2.0	19.8	6.4	4.7	1.7	35.2
Georgia	4.5	3.3	1.2	18.1	2.0	1.6	0.4	37.9
Hawaii	0.0	0.0	0.0	50.0	5.8	5.6	0.2	39.0
Idaho	0.0	0.0	0.0	17.3	7.6	0.0	7.6	19.5
Illinois	5.0	3.1	1.9	20.0	5.9	5.3	0.6	26.0
Indiana	5.7	3.2	2.5	21.6	8.6	4.8	3.8	35.1
Iowa	2.9	.7	2.2	17.7	3.4	4.5	- 1.1	36.5
Kansas	3.8	5.3	-1.5	20.0	5.4	5.1	0.3	40.4
Kentucky	4.6	2.9	1.7	16.1	8.2	4.9	3.3	39.2
Louisiana	4.4	3.3	1.1	20.3	6.2	5.9	0.3	37.6
Maine	3.7	0.0	3.7	16.1	33.8	0.0	33.8	29.0
Maryland	5.0	2.7	2.3	20.7	2.5	3.0	- .5	50.4
Massachusetts	5.1	3.9	1.2	24.5	7.0	4.7	2.3	31.5
Michigan	5.5	3.0	2.5	18.2	8.3	4.1	4.2	26.1
Minnesota	7.4	3.1	4.3	18.1	5.5	2.8	2.7	36.4
Mississippi	4.7	3.4	1.3	19.7	4.8	2.5	2.3	29.3
Missouri	4.3	2.7	1.6	15.2	5.6	2.0	3.6	34.4
Montana	0.0	100.0	100.0	100.0	14.5	8.6	5.9	18.3

TABLE A-1

MEASURES OF MOBILITY INTO CRAFTSMEN FROM OTHER BLUE COLLAR AND SERVICE OCCUPATIONS, MALES, BY RACE, BY STATE, 1965-1970 (CONTD.)

	Black				Spanish-American			
	Gross Inmobility	Gross Outmobility	Net Mobility	Level	Gross Inmobility	Gross Outmobility	Net Mobility	Level
Nebraska	6.1%	1.7%	4.4%	10.0%	7.5%	2.3%	5.2%	33.7%
Nevada	9.4	3.9	5.5	11.2	9.0	0.0	9.0	24.7
New Hampshire	11.6	16.7	- 5.1	29.1	0.0	9.9	- 9.9	49.6
New Jersey	5.2	3.0	2.2	19.7	4.9	5.9	- 1.0	27.6
New Mexico	3.6	2.1	1.5	15.0	6.5	4.3	2.2	33.7
New York	4.1	2.9	1.2	21.9	4.6	3.7	.9	25.2
North Carolina	5.2	3.1	2.1	19.5	4.2	7.9	- 3.7	47.9
North Dakota	0.0	0.0	0.0	100.0	37.2	0.0	37.2	0.0
Ohio	6.0	3.4	2.6	19.0	6.7	3.5	3.2	29.1
Oklahoma	5.3	4.2	1.1	21.0	7.4	1.1	6.3	41.2
Oregon	5.0	1.1	3.9	14.1	8.2	4.1	4.1	37.5
Pennsylvania	4.8	2.5	2.3	19.5	3.7	3.2	.5	30.4
Rhode Island	4.2	2.8	1.4	24.1	0.0	12.7	-12.7	12.7
South Carolina	5.1	3.1	2.0	21.6	4.0	0.0	4.0	43.0
South Dakota	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5
Tennessee	3.9	3.2	.7	17.2	7.2	5.5	1.7	39.1
Texas	5.6	3.4	2.2	17.7	6.1	4.0	2.1	34.3
Utah	5.3	0.0	5.3	0.0	6.7	2.5	4.2	33.2
Vermont	0.0	0.0	0.0	0.0	0.0	0.0	0.0	79.5
Virginia	4.3	2.7	1.6	21.4	4.0	5.1	- 1.1	47.5
Washington	5.1	1.1	4.0	26.2	7.6	4.3	3.3	28.3
West Virginia	1.8	2.9	- 1.1	19.5	6.8	8.3	- 1.5	32.8
Wisconsin	5.5	4.8	.7	21.1	8.0	5.0	3.0	31.6
Wyoming	6.4	0.0	6.4	23.1	3.4	1.8	1.6	26.9

TABLE A-2

MEASURES OF MOBILITY INTO WHITE COLLAR FROM OTHER OCCUPATIONS, MALES, BY RACE, BY STATE, 1965-1970

	All				White			
	Gross Inmobility	Gross Outmobility	Net Mobility	Level	Gross Inmobility	Gross Outmobility	Net Mobility	Level
Alabama	4.1%	2.9%	1.2%	36.7%	4.5%	3.2%	1.3%	41.9%
Alaska	7.4	5.9	1.5	46.7	7.5	6.0	1.5	47.1
Arizona	6.3	4.2	2.1	46.6	6.6	4.3	2.3	50.2
Arkansas	5.0	3.3	1.7	38.1	5.4	3.4	2.0	41.0
California	5.3	3.6	1.7	49.1	5.4	3.7	1.7	53.4
Colorado	5.8	3.6	2.2	50.0	5.8	3.7	2.1	52.9
Connecticut	4.5	3.0	1.5	46.3	4.5	3.0	1.5	47.5
Delaware	4.8	2.7	2.1	45.1	5.0	2.8	2.2	48.1
D.C.	4.0	2.9	1.1	50.0	2.3	1.6	0.7	81.7
Florida	5.3	4.3	1.0	47.2	5.6	4.5	1.1	52.1
Georgia	4.8	3.2	1.6	40.8	5.3	3.5	1.8	46.6
Hawaii	3.1	2.6	.5	43.3	3.2	2.6	0.6	43.9
Idaho	5.9	4.2	1.7	42.8	5.9	4.2	1.7	43.1
Illinois	4.6	3.3	1.3	42.0	4.6	3.3	1.3	44.7
Indiana	4.8	3.3	1.5	35.6	5.0	3.4	1.6	37.0
Iowa	5.2	3.8	1.4	43.6	5.2	3.9	1.3	44.1
Kansas	5.4	3.3	2.1	46.2	5.4	3.3	2.1	47.5
Kentucky	4.4	3.5	.9	36.3	4.6	3.5	1.1	37.5
Louisiana	4.5	3.2	1.3	39.7	5.1	3.6	1.5	46.0
Maine	4.2	2.9	1.3	36.5	4.2	3.0	1.2	36.5
Maryland	4.2	2.8	1.5	48.9	4.4	2.8	1.7	52.9
Massachusetts	4.6	2.9	1.7	45.5	4.6	2.9	1.7	46.0
Michigan	4.7	3.1	1.6	37.3	4.8	3.2	1.6	39.6
Minnesota	5.2	3.3	1.9	46.9	5.2	3.3	1.9	47.1
Mississippi	4.8	2.4	2.4	37.2	5.5	3.8	1.7	44.1
Missouri	4.6	3.3	1.3	42.3	4.7	3.3	1.4	44.0
Montana	6.1	3.6	2.5	44.6	6.1	3.6	2.5	44.8

TABLE A-2

MEASURES OF MOBILITY INTO WHITE COLLAR FROM OTHER OCCUPATIONS, MALES, BY RACE, BY STATE, 1965-1970 (CONTD.)

	All				White			
	Gross Inmobility	Gross Outmobility	Net Mobility	Level	Gross Inmobility	Gross Outmobility	Net Mobility	Level
Nebraska	5.2%	3.7%	1.5%	47.0%	5.2%	3.7%	1.5%	47.9%
Nevada	6.5	5.1	1.4	41.7	6.6	5.1	1.5	43.0
New Hampshire	4.7	3.1	1.6	39.8	4.8	3.2	1.6	39.8
New Jersey	4.3	2.9	1.4	46.1	4.3	2.9	1.4	48.8
New Mexico	4.6	3.6	1.0	48.3	5.1	3.6	1.5	53.6
New York	4.2	2.9	1.3	47.1	4.2	2.8	1.4	50.2
North Carolina	4.7	3.2	1.5	36.6	5.0	3.5	1.5	40.6
North Dakota	5.4	2.9	2.5	44.7	5.5	2.9	2.6	44.7
Ohio	4.5	3.2	1.3	38.0	4.6	3.3	1.3	39.5
Oklahoma	5.4	3.9	1.5	44.5	5.5	4.0	1.5	45.7
Oregon	5.4	3.6	1.8	42.4	5.5	3.6	1.9	42.6
Pennsylvania	3.9	2.8	1.1	38.6	3.9	2.8	1.1	39.8
Rhode Island	4.5	2.9	1.6	39.3	4.4	2.9	1.5	39.9
South Carolina	4.6	3.2	1.4	35.3	5.1	3.6	1.5	41.1
South Dakota	5.2	3.9	1.3	49.6	5.3	3.9	1.4	49.7
Tennessee	4.5	3.1	1.4	38.9	4.5	3.3	1.2	41.5
Texas	4.9	3.6	1.3	44.2	5.2	3.8	1.4	50.9
Utah	5.9	3.6	2.3	47.8	6.0	3.6	2.4	48.5
Vermont	5.8	3.1	2.7	41.6	5.9	3.1	2.8	41.6
Virginia	4.1	2.9	1.2	43.7	4.4	3.0	1.4	48.8
Washington	5.5	3.6	1.9	45.1	5.6	3.7	1.9	45.5
West Virginia	4.1	2.7	1.4	31.0	4.2	2.8	1.4	31.4
Wisconsin	4.9	3.0	1.9	38.4	4.9	3.1	1.8	39.2
Wyoming	5.5	3.6	1.9	45.4	5.6	3.7	1.9	46.4

TABLE A-2

MEASURES OF MOBILITY INTO WHITE COLLAR FROM OTHER OCCUPATIONS, MALES, BY RACE, BY STATE, 1965-1970 (CONTD.)

	Black				Spanish-American			
	Gross Inmobility	Gross Outmobility	Net Mobility	Level	Gross Inmobility	Gross Outmobility	Net Mobility	Level
Alabama	3.8%	1.7%	2.1%	11.8%	3.0%	3.2%	- .2%	33.3%
Alaska	0.0	0.0	0.0	30.3	8.9	8.5	.4	17.0
Arizona	6.6	2.0	4.6	14.8	4.2	3.9	.3	21.0
Arkansas	1.8	2.3	- 0.5	11.5	4.9	6.9	- 2.0	46.4
California	5.6	3.2	2.4	24.9	4.3	3.7	.6	22.2
Colorado	7.5	1.4	6.1	25.0	5.0	3.2	1.8	21.1
Connecticut	4.3	1.9	2.4	17.7	4.5	6.7	- 2.2	27.3
Delaware	2.8	.9	1.8	14.3	3.9	6.2	- 2.3	42.5
D.C.	4.9	3.5	1.4	35.0	4.5	4.9	- .4	44.6
Florida	2.5	1.8	0.7	13.0	6.7	6.6	.1	38.1
Georgia	2.9	2.1	0.8	13.1	5.4	6.1	- .7	40.4
Hawaii	0.0	35.8	-35.8	86.6	1.3	1.6	- .3	20.8
Idaho	0.0	0.0	0.0	13.6	4.2	8.7	- 4.5	24.4
Illinois	4.5	3.3	1.2	21.9	3.9	4.0	- .1	20.8
Indiana	2.9	1.7	1.2	15.8	3.0	3.6	- .6	21.1
Iowa	5.5	3.6	1.9	8.7	3.0	.7	2.2	29.6
Kansas	3.6	1.9	1.7	16.7	8.0	6.8	1.2	31.1
Kentucky	3.2	3.0	0.2	15.2	3.8	3.5	.3	33.8
Louisiana	2.0	1.4	0.6	13.0	3.7	4.6	- .9	37.2
Maine	0.0	0.0	0.0	12.5	26.2	0.0	26.2	54.3
Maryland	3.0	2.6	0.4	21.5	5.3	2.5	2.8	50.2
Massachusetts	6.0	2.8	3.2	24.9	7.9	4.8	3.1	29.3
Michigan	3.7	2.5	1.2	15.4	4.7	3.8	.9	21.9
Minnesota	7.7	4.8	2.9	33.0	6.8	3.8	3.0	34.8
Mississippi	2.2	1.5	0.7	10.5	2.9	4.1	- 1.2	30.7
Missouri	3.5	3.35	0.2	21.05	6.3	3.9	2.4	33.3
Montana	0.0	51.2	-51.2	51.2	2.9	0.0	2.9	20.6

TABLE A-2

MEASURES OF MOBILITY INTO WHITE COLLAR FROM OTHER OCCUPATIONS, MALES, BY RACE, BY STATE, 1965-1970 (CONTD.)

	Black				Spanish-American			
	Gross Inmobility	Gross Outmobility	Net Mobility	Level	Gross Inmobility	Gross Outmobility	Net Mobility	Level
Nebraska	1.4%	4.4%	- 3.0%	13.6%	11.5%	2.6%	8.9%	21.3%
Nevada	5.9	3.6	2.3	16.9	6.0	7.8	- 1.8	25.4
New Hampshire	0.0	0.0	0.0	42.6	0.0	5.6	- 5.6	43.1
New Jersey	3.8	2.9	0.9	18.4	4.8	6.1	- 1.3	28.2
New Mexico	6.5	5.8	0.7	28.2	3.3	3.8	- .5	33.6
New York	4.4	3.3	1.0	27.2	5.1	3.9	1.2	28.6
North Carolina	2.8	1.8	1.0	13.0	4.5	3.8	.7	35.0
North Dakota	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.8
Ohio	3.6	2.4	1.2	17.9	3.5	3.4	.1	25.5
Oklahoma	5.2	2.6	2.6	16.5	5.7	3.4	2.3	38.4
Oregon	8.7	3.8	4.9	23.5	4.0	2.9	1.1	24.0
Pennsylvania	3.8	2.9	0.9	20.5	4.9	3.4	1.5	27.0
Rhode Island	4.9	1.6	3.3	18.5	11.6	3.5	8.1	27.1
South Carolina	2.3	1.8	0.5	11.7	6.9	1.8	5.1	48.8
South Dakota	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.4
Tennessee	4.3	2.2	2.1	15.7	6.0	2.6	3.4	34.7
Texas	3.5	2.4	1.1	14.7	4.2	3.1	1.1	22.6
Utah	9.2	0.0	9.2	16.8	6.5	4.0	2.5	25.2
Vermont	0.0	26.4	-26.4	26.4	0.0	0.0	0.0	48.2
Virginia	2.9	2.0	0.9	13.2	2.7	3.4	- .7	45.3
Washington	5.6	2.4	3.2	21.7	6.0	5.2	.8	35.1
West Virginia	2.9	3.3	- .4	14.8	2.0	1.7	.3	24.8
Wisconsin	5.5	2.5	3.0	11.6	6.5	2.9	3.6	21.2
Wyoming	0.0	0.0	0.0	0.0	2.8	3.7	- .9	22.7

TABLE A-3

CORRELATION MATRIX FOR CRAFTSMEN

	Net Mobility of Black Males	Net Mobility of All Males	Percent of Population Black	Percent of Black Males in Labor Force Age 25-34	Change in Percent of Labor Force Female, 1960-1970	Change in Percent of Population Foreign Born, 1960-1970	Trainees as Percent of Nonfarm Employees, 1967-1969	Difference in Change in Median Education, 1960-1970	Percent in SMSA's of 1 Million or More	Percent in Urban Poverty Areas	Percent Who Travel to Work by Other than Auto
Net Mobility of Black Males	--	.87	.62	.78	.35	-.40	.78	.35	.76	.64	.66
Net Mobility of All Males		--	.84	.85	.38	-.25	.77	.31	.52	.44	[illegible]
Percent of Population Black			--	.93	.52	-.08	.73	.21	.34	[illegible]	.53
Percent of Black Males in Labor Force Age 25-34				--	.47	-.25	.83	.26	.63	.71	.74
Change in Percent of Labor Force Female, 1960-1970					--	-.37	.41	.06	.30	.59	.52
Change in Percent of Population Foreign Born, 1960-1970						--	-.48	-.03	-.63	-.60	[illegible]
Trainees as Percent of Nonfarm Employees, 1967-1969							--	.39	.73	.68	.75
Difference in Change in Median Education, 1960-1970								--	.28	.23	[illegible]
Percent in SMSA's of 1 Million or More									--	.76	[illegible]
Percent in Urban Poverty Areas										--	.85
Percent Who Travel to Work by Other than Auto											--

TABLE A-4

CORRELATION MATRIX FOR WHITE COLLAR

	Net Mobility of Black Males	Net Mobility of All Males	Percent of Population Black	Percent of Black Males in Labor Force Age 25-34	Change in Percent of Labor Force Female, 1960-1970	Change in Percent of Population Foreign Born, 1960-1970	Difference in Change in Median Education, 1960-1970	Percent in SMSA's of 1 Million or More	Percent in Urban Poverty Areas	Percent Who Travel to Work by Other than Auto
Net Mobility of Black Males	--	.89	.71	.86	.41	.54	.35	.85	.66	.79
Net Mobility of All Males			.54	.75	.22	-.44	.34	.79	[illegible]	.47
Percent of Population Black			--	.92	.56	-.15	.19	.36	.60	.66
Percent of Black Males in Labor Force age 25-34				--	.52	-.34	.25	.65	.80	.76
Change in Percent of Labor Force Female, 1960-1970					--	-.41	.03	.31	.63	.36
Change in Percent of Population Foreign Born, 1960-1970						--	-.04	-.67	-.62	-.76
Difference in Change in Median Education, 1960-1970							--	.30	.25	[illegible]
Percent in SMSA's of 1 Million or More								--	.72	.37
Percent in Urban Poverty Areas									--	--
Percent Who Travel to Work by Other than Auto										

RESTRUCTURING INCOME MAINTENANCE

Introduction

In the 1960s, the public assistance program received a strong indictment for discouraging work, encouraging families to separate, discouraging the development of skills, low benefit levels, incomplete coverage of the working poor, demeaning treatment of claimants, high administrative costs, payments to ineligibles, and inequities in benefits between geographic areas and between persons working and not working. The Congress and the Administration embarked upon a concerted effort to overhaul the welfare system. The debate over welfare reform promised to produce fundamental changes but reached an impasse over conflicting objectives.

The Supplemental Security Income program replaced the state-administered Welfare categories of Old Age Assistance, Aid to the Blind and Aid to the Disabled in January, 1974. A uniform benefit level of $1,752 for an individual and $2,628 for a couple was established under Federal administration with an option of state supplementation of benefit levels. By September, 1974, 3.8 million persons were receiving federally administered SSI payments at an annual rate of $5.4 million.* The program provided for automatic increases in benefits with the cost of living. Since the establishment of SSI the welfare reform debate has centered even more on Aid to Families with Dependent Children (AFDC) and on General Assistance.

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*U.S. Social Security Administration, "Social Security in Review," Social Security Bulletin (January, 1975), p. 2.

The most basic objective was to assure the receipt of a minimum income. An income guarantee is intended to serve several purposes. The large AFDC population contains many women with child care responsibilities and limited skills. For many males employment opportunities are too irregular--because of discrimination, low productivity and the transitory nature of many low-wage jobs--to permit as much work as desired to be obtained. Persons who are not covered by programs for disability, temporary unemployment, etc., but nevertheless face unemployment or illness would also benefit from a floor under income.

The provision of income guarantees, however, could have adverse consequences on the incentive to work and acquire skills and on the frequency with which families remain intact. The major issue which emerged was the choice between high levels of income guarantees and stronger work incentives. In spite of the dilemma, between the mid-1960s and mid-1970s surprisingly rapid evolution of social programs took place with very modest changes in work incentives. If a decision is made to introduce strong incentives for work and family cohesion, it will be necessary for much more extensive changes to take place. These issues are examined and a restructuring of income maintenance to accomplish these objectives is recommended.

The Extent of Poverty and Underemployment

The dependence of the lowest income groups on transfer payments is indicated in Table 1. Families with the lowest 10 percent of income received 63 percent of their incomes in the form of cash transfers in 1970. After these transfer payments, a substantial amount of poverty remained. If poverty is measured by the standard definition, in 1971 there were 15 million families (20.9 percent of all families) with incomes below the poverty line prior to receipt of transfer payments. (Table 2.) After account is taken of receipt of social insurance and public assistance the number of poor families is reduced to 8.6 million. Inclusion of in-kind transfers and allowance for program changes through 1974 would reduce further the number of families below poverty income levels. Peter Karsten has estimated that the reduction would be 2.6 million (in FY 1973)* which would leave about 6 million families in poverty.

The 1971 data show that (before allowance for in-kind programs) more than half of families in poverty remained in poverty after transfers in every category except the aged. If we look at persons in families instead of families, we find in Table 2 that more than half of all persons in poverty are in families with an adult head who is neither aged nor disabled and the majority of these persons are in male-headed families.

Roughly half of the poor would not be expected to generate a sufficiently high income flow to attain incomes above the poverty line, based on such factors as education, health, age, race, and the presence

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*Peter Karsten, "A Quarter Century of Poverty in the U.S., 1947-1972: Definitions, Change, Continuity, and the Future," HI-2068-DP, Hudson Institute, August 26, 1974.

TABLE I

MONEY INCOME TRANSFERS BY INCOME DECILE, 1970[*]

MONEY INCOME DECILE	TRANSFERS	TRANSFERS AS PERCENT OF INCOME
First Decile (less than $2,400)	$ 996	63%
Second Decile ($2,400-$4,129)	1,339	41
Third Decile ($4,130-$5,597)	1,299	27
Fourth Decile ($5,578-$7,255)	1,154	18
Fifth Decile ($7,256-$8,814)	1,059	13
Sixth Decile ($8,815-$10,551)	869	9
Seventh Decile ($10,552-$12,689)	567	5
Eighth Decile ($12,690-$15,049)	588	4
Ninth Decile ($15,050-$19,199)	447	3
Tenth Decile ($19,200 or more)	529	2
Total	$ 883	9%

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[*] Excluding a small amount of help from relatives.

SOURCE: Nancy A. Barnwaldt and James N. Morgan, "Trends in Inter-Family Transfers," working paper from the OEO Study of Family Income Dynamics, University of Michigan Survey Research Center, December 1971, Table I.

TABLE 2

NUMBER OF POOR FAMILIES AND PERSONS LIVING IN POOR FAMILIES ACCORDING TO STANDARD DEFINITION, BY TYPE OF FAMILY, 1971

(millions)

Head of Family	Poor Families After Transfers	Individuals in Poor Families After Transfers
Aged	3.0	5.1
Disabled but not aged	1.3	4.0
Male without children, neither disabled nor aged	1.8	2.4
Male with children, neither disabled nor aged	1.3	7.1
Female with children, neither disabled nor aged	1.2	5.3
All Families	8.6	23.9

Source: Michael Barth, George Carcagno and John Palmer, Toward an Effective Income Support System: Problems, Prospects and Choices, Madison: Institute for Research on Poverty, University of Wisconsin, 1974, Table 8.

of small children. But the other half remain poor for reasons other than low earnings capacity. Nearly two-thirds of heads of families officially classified as poor worked less than 13 weeks in a typical year.*

The frequency of work of near-poor family heads is not dominated by disincentive effects of the welfare system. Observation of this group provides an indication of the importance of lack of opportunities as a cause of low income. The proportion of family heads and unrelated individuals of labor force age who either do not work or work only one-half year or less is shown in Table 3. The data indicate that above the poverty line the extent of underemployment is substantial.

One-fourth of male family heads between 100 and 125 percent of the poverty line worked one-half year or less. More than half of those did not work at all (one-third of those who did work worked only part time). The figures for males between 125 percent and 150 percent of the low income level are nearly as large. Half of female family heads with incomes between 100 and 125 percent of the poverty line did not work more than one-half year. The figures for male unrelated individuals are particularly high. Sixty-five percent of those between 100 and 125 percent of the low income level did not work more than a half year and 30 percent did not work at all. The patterns for blacks are generally similar. Males tended to work less frequently and females more frequently than whites.

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*Irwin Garfinkel and Robert Haveman, "Earnings Capacity and the Target Efficiency of Alternative Income Transfer Programs," American Economic Review, 64, No. 2 (May 1974), pp. 196-204. These proportions would be changed if a higher poverty income standard were used.

TABLE 3

PERCENTAGE OF FAMILY HEADS AND UNRELATED INDIVIDUALS AGE 22-64 BETWEEN 100 AND 150 PERCENT OF THE STANDARD LOW INCOME LEVEL WORKING ONE HALF YEAR OR LESS, BY SEX AND RACE, 1972

	Did Not Work	Worked 26 Weeks or less, Either Full or Part Time	Total
All Persons			
Family Heads			
Between 100% and 125% of the low income level			
Male	13.6%	12.1%	25.7%
Female	35.8	14.7	50.5
Between 125% and 150% of the low income level			
Male	9.9	9.4	19.3
Female	27.2	14.7	41.9
Unrelated Individuals			
Between 100% and 125% of the low income level			
Male	29.8	35.0	64.8
Female	33.1	15.4	48.5
Between 125% and 150% of the low income level			
Male	22.8	22.4	45.2
Female	11.2	18.5	29.7
Blacks			
Family Heads			
Between 100% and 125% of the low income level			
Male	14.6	12.4	27.0
Female	36.4	8.7	45.1
Between 125% and 150% of the low income level			
Male	6.3	10.1	16.4
Female	13.5	17.6	31.1
Unrelated Individuals			
Between 100% and 125% of the low income level			
Male	50.0	24.9	74.9
Female	26.4	7.5	33.9
Between 125% and 150% of the low income level			
Male	31.2	18.7	49.9
Female	6.5	6.5	13.0

Source: U.S. Bureau of the Census, Current Population Reports, Series P. 60 No. 95, "Supplementary Report on the Low Income Population: 1966-1972," Washington: U.S. Government Printing Office, 1974.

Work Incentives and Income Guarantees

The welfare system of the 1960s required a recipient to lose one dollar of benefits for every dollar of additional earnings, the equivalent of a 100 percent tax on additional earnings. The effect of a confiscatory marginal tax rate has been to discourage efforts at earning income. In the debates over welfare reform it was expected that many more persons would be willing to seek work if marginal tax rates were lowered so that benefits would be reduced by only a fraction of earnings.

A basic guarantee level and a marginal tax rate would be established. For example, with a $3,000 guarantee level and 50 percent marginal tax rate, a family earning $1,800 would receive a benefit of $3,000 minus half of the $1,800 earned or $2,100. Total income--the benefit plus earnings--would be $3,900. All families with incomes below $6,000 (the "break even" level*) would receive some benefit since a reduction by 50 percent of their incomes would be lower than the $3,000 guarantee level. This approach becomes a "Negative Income Tax" or "Credit Income Tax" when benefits are integrated with the personal income tax structure and paid as tax refunds.

In-kind transfer programs often tie the eligibility for health care, food, housing and other commodities to income, adding to the effective marginal tax rate and further reducing work incentives. When these effects are added to the 50 and 67 percent marginal tax rates which commonly have been considered, the net result is that someone going on welfare often would lose nearly as much as could be earned.[*] Unless even lower marginal tax rates were considered, the real marginal tax rate would be close to 100 percent and work incentives would be as absent as under the public assistance system which such proposals were intended to replace.

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*The "break even" level of income is the ratio of the guarantee to the marginal tax rate.

A payment schedule with an even lower marginal tax rate would mean that many persons with moderately low incomes not currently receiving welfare would become eligible for an income supplement. For example, a $3,000 guarantee with a 1/3 marginal tax rate would provide some benefits to families earning up to $9,000. As a result a low marginal tax rate entails very high costs even with a modest guarantee level.

Beginning in July 1969, rules of the Aid to Families with Dependent Children program allowed a disregard of the first $30 per month earned plus work related expenses and 1/3 of all earnings thereafter--a 2/3 marginal tax rate. By 1971 earnings of welfare recipients had risen to $99 million of which 73 percent was disregarded.[**] Disregard provisions can induce greater part-time and temporary work since the marginal tax rate is zero until the disregard level is reached. However, even under the disregard these reported earnings were only $10 per AFDC recipient.

Efforts to lower marginal tax rates to levels of 50 to 67 percent cannot provide more than a negligible incentive for welfare recipients to seek regular work. These rates imply that for most persons earnings will be only about half the minimum wage. It is not reasonable to expect that significant work efforts would be generated by introducing a system which allowed an employee to retain only $1.00-$1.50 an hour after benefit reductions are taken into account.

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[*] Edward Moscovitch, "Income Supplements--How High Should They Be," New England Economic Review, Federal Reserve Bank of Boston (January/February 1971), pp. 5-39 and Jodie Allen, A Funny Thing Happened on the Way to Welfare Reform, Washington, D.C., The Urban Institute, 1972.

[**] Ms. Winifred Bell of the New York University Graduate School of Social Work as cited in Tom Wicker, "Welfare Income and Trains," The New York Times (March 12, 1974), p. 37.

If it is not possible to create effective work incentives through a Negative Income Tax type of plan with acceptable costs, then why not forego the incentives and concentrate instead on putting any additional dollars into raising the level of guarantee? The problem that arises is that as benefits are raised to provide better conditions for those already on welfare, the program becomes more attractive to those who are working. While the nonpoor are often willing to see that the poor have higher incomes, they are not willing to tax themselves to buy the poor large additions of leisure.

The problem of establishing guarantee levels becomes particularly apparent when income guarantee levels are compared to market wage rates. In recent years the minimum wage has been set typically at about half of the average wage rate of production workers in manufacturing industries. A wage earner working 40 hours per week for 50 weeks per year at the minimum wage in 1974 would earn only 9/10 of the poverty threshold for a non-farm family of four The minimum wage would fall short of providing a poverty level of income by even more if the poverty standard were updated to reflect the growth in real income in the economy as well as price changes.

There are substantial numbers of workers at or near the minimum wage. For example, in the Brooklyn, New York Model Cities area in 1968, 5 percent of those surveyed reported earnings at or below the earnings which full-time work at the minimum wage would have generated. Another 18 percent were within $20 per week of that level.

Any income guarantee that was close to the wage of a large number of workers would have to be considered attractive to a significant portion. As a result the decrease in hours of work from introducing an income guarantee can be expected to be substantial. To avoid providing a strong incentive to reduce work effort, the guarantee level would have to be set farther still below the income that could be obtained while working. Making beneficiaries responsible for earning a portion of the income needed to bring them to a minimum standard of yearly income is a reasonable way of minimizing the work incentive effects of a basic guarantee, at least in the case of households without children.

The size of work incentive effects have been simulated in a number of studies. Kosters and Greenberg find that 1/3 of the subsidy dollar would have gone to purchase increased leisure for male family heads under the Nixon Administration's Family Assistance Plan-Family Security Plan. The reduction in earned income would have been nearly 2/3 of the transfer in both the plan of the President's Commission on Income Maintenance and in a low tax rate-low guarantee plan and 95 percent in a high tax rate-high guarantee plan.* These estimates appear to provide a reasonable indication of the orders of magnitude involved.* Some issues in measurement of work incentive effects are discussed in Appendix A.

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*David Greenberg and Marvin Kosters, "The Impact of Income Maintenance Programs on Hours of Work and Incomes of the Working Poor: Some Empirical Results," P-4544, Santa Monica: The RAND Corporation, December 1970. Also see David Greenberg and Marvin Kosters, Income Guarantees and the Working Poor: The Effect of Income Maintenance Programs on the Hours of Work of Male Family Heads, R-579-OEO, Santa Monica: The RAND Corporation, December 1970.

The difficulties encountered in attempting to provide both high guarantees and low marginal tax rates were exemplified in the McGovern Plan. In his proposal the basic payment is $1,000 per person and a tax rate of 1/3 is applied to all income except the basic payment. The resulting pattern of per capita gains and losses by income group in 1972 would have been as follows:

Income (Thousands)	1972 Transfer Per Capita**
$0 - $3	$ 703
3 - 5	310
5 - 10	224
10 - 15	82
15 - 20	-66
20 - 25	-232
25 - 50	-579
50 - 100	-619
100 - 500	-592
500 - 1,000	-4,565
Over - 1,000	-6,333

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*Greenberg and Kosters (p. 12) report that "A measure of the hourly wage rate can be obtained in a relatively direct manner because both earnings and hours worked during the week preceding the interview are reported ...the wage rate is less likely to be affected by abnormal hours than when earnings data are available only for the preceding year." Irwin Garfinkel, in surveying the labor supply literature, notes a criticism of the second paper which does not apply to the results cited from the first. See "Income Transfer Programs and Work Effort: A Review," How Income Supplements Can Affect Work Behavior, Studies in Public Welfare No. 13, Joint Economic Committee, Subcommittee on Fiscal Policy, February 1974, pp. 1-32.

**Russel Lidman, "Cost and Distributional Implications of a Credit Income Tax Plan," Public Policy, 20, No. 2 (Spring 1972), Table I. Also see Lee Rainwater, "Economic Inequality and the Credit Income Tax," Working Papers for a New Society, 6, No. 27! (Spring 1973), pp. 50-61.

The heavy transfers to the poor could have been expected to have substantial effects on work incentives. Many families who are not poor by any standard would be subsidized. The plan would provide heavy transfers to large families. Very heavy taxes would be required to finance these features. This would be expected to reduce incentives to gain income in the upper half of the income distribution. Furthermore, a substantial part of the funding was to have come from tax reform without which the marginal tax rate would have been considerably higher.

More modest alternatives apply a negative income tax with a low marginal tax rate to the poverty population alone. Blechman, Gramlech and Hartman estimate that the net cost of a plan with 50 percent tax to replace AFDC, Supplemental Security Income and Food Stamps would be about $11 billion plus any supplemental expenditures by the states to assure that some benefits are not reduced. A reduction of the marginal tax rate to 33 percent would raise the cost to about $20 billion.* This is still expensive for a plan which provides only a modest improvement in incentives to work and acquire skills and fails to eliminate incentives for families to remain apart.

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*Barry Blechman, Edward Gramlech and Robert Hartman, Setting National Priorities, The 1975 Budget, Washington: The Brookings Institution, 1974.

The Effects of Introducing Work Incentives on Employment

Evidence on Effects of Increased Labor Supply

Examination of the experience of persons who have exhausted employment insurance benefits to see if they find work more rapidly than those still receiving benefits is one useful way to assess the effects of increased supply on employment. The method is biased toward showing a greater likelihood of finding work after termination, since a person becoming reemployed may be displacing another worker without a net gain in employment. By itself this would make any finding of no difference in rapidity of finding employment after benefit termination especially significant. There may also be an important bias in the opposite direction because those out of work the longest are likely to be the most dificlut to employ.*

Important evidence comes from a study of the Pennsylvania experience in 1966-67. The pattern of reemployment shows a heavy concentration in the months immediately after termination of benefits. Forty-two percent were reemployed in the month after termination and 19 percent in the following month. However, economic pressures could be expected to force persons unemployed long enough to exhaust benefits to accept short-term jobs while significant long-term opportunities were not yet available. This view is supported by data which show that the percentage of persons having exhausted benefits rose only temporarily with the passage of time. Thirty-two percent were employed 1 month after exhaustion of benefits. This number rose to 52 percent after four months. However, it then fell sharply; only 31 percent were still employed 6 months after exhaustion of unemployment insurance benefits.*

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*Since few unemployment insurance recipients seek work at or near the minimum wage, this test is not biased by the inflexibility of wage rates which occurs at the lower levels.

The unemployment insurance data suggest that an increase in supply alone will not raise employment substantially for the kinds of workers who make up the long-term unemployed. Taken together with the evidence on unemployment presented earlier, there are strong indications that the impact of measures which improve incentives and increase the supply of labor will not be sufficient unless carried out as part of a program which will also raise demand. In the Incentive Maintenance Plan which is proposed an earnings supplement is used to lower the cost of labor to the employer. In order for this to be effective it is necessary that the supplement be counted as part of the minimum wage.

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*Merrill Murray, The Duration of Unemployment, Washington, W.E. Upjohn Institute for Employment Research, January 1974, Tables 4 and 5.

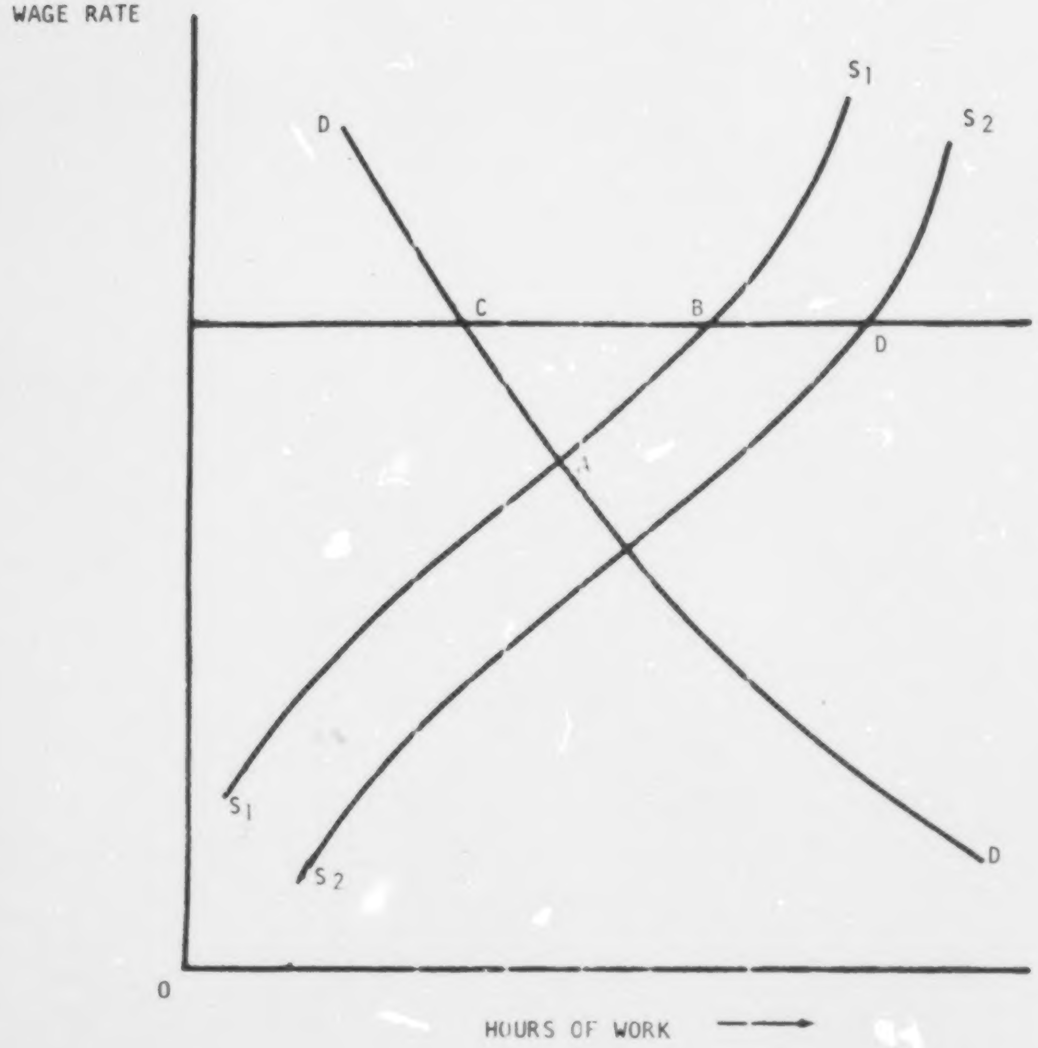
Minimum Wage Effects

The willingness of an employer to hire an employee will depend on the value of what he produces. If the minimum wage raises the price of a man's labor above the expected value of his product, he will not be hired. As a result, employment of those with the lowest skill levels is reduced by the imposition of minimum wages and a greater split occurs between the poor who work and those who do not.

In an environment of increased work incentives this measure once again may have serious counterproductive effects. A welfare reform program which increases the supply of labor is likely to be prevented from achieving an appreciable expansion of employment because of the inflexibility of unskilled wages caused by the minimum wage. Figure 1 depicts the hours of work supplied by unskilled labor as a function of the wage rate. The free market equilibrium is determined by the intersection of the demand curbe D with supply S_1 at Point A. The effect of the imposition of a minimum wage is to reduce the quantity of labor demanded to C while the quantity supplied is increased to B. At the minimum wage there is unemployment equal to CB since the quantity of labor which workers are willing to provide exceeds the quantity that employers are willing to hire at that wage rate.

A shift in labor supply cannot lower the wage to induce an expansion of employment since the wage is already at the legal minimum. As a result the effect of an increase in supply is to raise the number of unemployed (from CB to BD). Lowering the minimum wage which employers must pay, on the other hand, would provide an incentive for employers to hire workers

FIGURE 1



with low productivity because the employers need no longer pay a wage which exceeds the value of the product of the least productive workers.

Inclusion of the benefits of an earnings supplement as part of the minimum wage will reduce costs to employers and raise demand. At the same time workers will receive more income per hour of work.

Supplementing Earnings

Proposals which reduce the compensation below rates obtained in low wage markets can never effectively deal with the work incentives issue. If encouraging employment is desired it is possible instead to skew incentives heavily in favor of work. This can be achieved by a payment to employees which adds to income in relation to the amount of work performed. A wage supplement plan accomplishes this by adding to the hourly wage rate. For example, a supplement could be paid equal to half the difference between the wage rate earned and $4.00 per hour. Someone earning $2.00 per hour would receive a supplement of $1.00 per hour; at a $3.00 per hour wage rate the supplement would be $.50.*

Under a wage supplement plan it is necessary to keep records of both earnings and hours worked. Employees have an incentive to pressure employers to overstate hours in order to appear to be earning a lower wage and be eligible for a larger subsidy. There is also an incentive to understate the earnings in a given number of hours. These difficulties can be largely overcome under an earnings supplement.

The earnings supplement plan makes assistance dependent on the amount earned rather than on the wage rate This provides an incentive for low income workers to increase hours of work as well as wage rates. It also provides an incentive to report rather than conceal earnings.

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*See Richard Zeckhauser and Peter Schuck, "An Alternative to the Nixon Income Maintenance Plan," The Public Interest, 19 (Spring 1970), pp. 120-130, Robert Haveman, Irene Lurie and Thad Mirer, "Earnings Supplementation Plans for 'Working Poor' Families: An Evaluation of Alternatives," Discussion Paper, University of Wisconsin Institute for Research on Poverty, September 1973, and Robert Haveman, "Work Conditioned Subsidies as an Income Maintenance Strategy: Issues of Program Structure and Integration," in "Concepts in Welfare Program Design," Paper No. 9, Joint Economic Committee, Subcommittee on Fiscal Policy, Washington: U.S. Government Printing Office, August 1973, pp. 33-67.

In order to avoid subsidizing persons with high hourly earnings but infrequent employment it is necessary to place a limit on eligibility, stated in terms of either a maximum hourly earnings or a minimum number of hours of work at a given earnings level. It would be necessary to check the accuracy of reported hours of work only insofar as it influenced whether workers were within the limit.

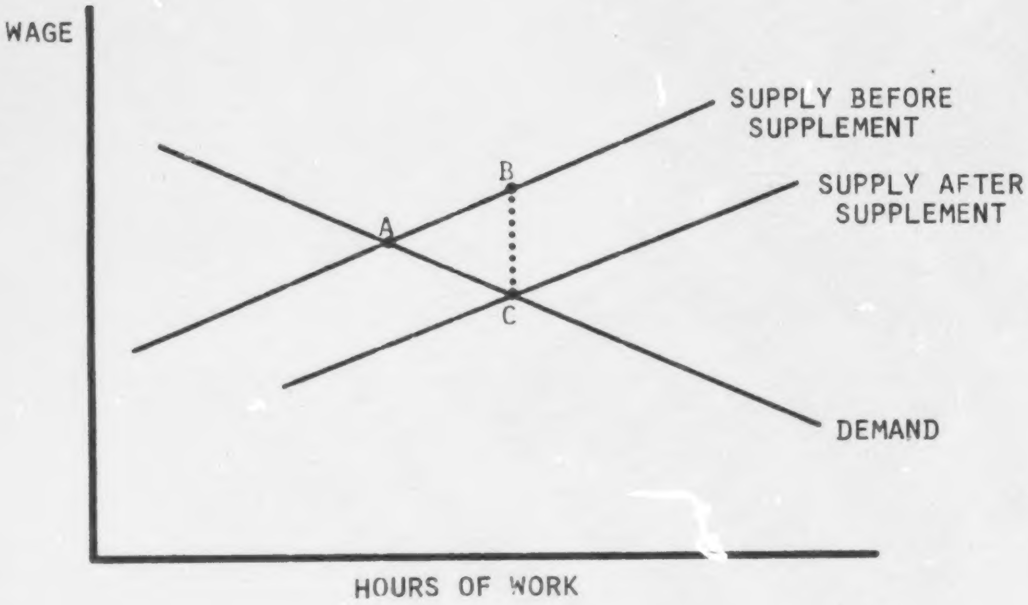
Workers close to the hourly maximum would have some incentive to reduce hours of work since part of the earnings loss would be compensated. But this same feature is a major advantage for the broader population. The earnings supplement, because it provides greater supplementation when income falls, can cushion some of the earnings loss when involuntary losses in earnings occur. This feature has to be coordinated with the eligibility requirements of the unemployment insurance system.

The effects of an earnings supplement on the number of hours worked by all employees is shown in Figure 2. The initial supply indicates the number of hours which workers would be willing to work at various wage rates. When the supplement is introduced they are willing to work more and accept a lower wage rate--supply shifts from A to C. Workers receive a wage plus supplement of B since they required earnings of B to induce them to work the expanded number of hours. At the same time employers pay only C, the amount required to induce them to demand additional hours of work. The supplement BC accounts for the difference.

While the earnings supplement by itself creates a strong incentive to work an income guarantee creates a strong disincentive. When the two

FIGURE 2

EFFECTS OF AN EARNINGS SUPPLEMENT


WAGE
SUPPLY BEFORE SUPPLEMENT
SUPPLY AFTER SUPPLEMENT
B
A
C
DEMAND
HOURS OF WORK

are combined the net effect depends on the sizes of the supplement and the guarantee. When the guarantee is high and the earnings supplement is low the combination can result in adverse work incentives relative to the free market. These may still be less adverse than under the present welfare system. When the guarantee is kept modest and/or the supplement increased sufficiently, the combined plan begins to produce effects on work incentives which are decisively positive compared with the present welfare system.*

The primary method of encouraging work under the present system has been through the use of work requirements to deny benefits to those who are able to work. Because of the difficulties of determining employability this approach has entailed a great deal of arbatrariness and large administrative costs and has added to the tendencies for the system to be oppressive and demeaning. At the same time there has been very little success in placing the hard to employ and they have not remained employed for long periods of time. While a change in the incentives in favor of work might make a work test more effective, the more fundamental point is that it would make a work test less necessary.

The 1975 Manpower Report of the President describes the experience of the Work Incentive Program: "only a minority of welfare recipients (about one-third of 1973 registrants) can be considered fully employable, since most have work disabilities, child-care responsibilities, and other handicaps. Among those who can work, the most qualified often find their way back into the labor force on their own."* Of the 535,000 persons in WIN II in 1974 who were in the employable category, only 1/3 were placed. Only 2/3 of these were continuously employed for 90 days and many still required supplementation. As a result only 52,000 persons left welfare--less than 10 percent of employable participants.**

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*Michael Barth and David Greenberg, "Incentive Effects of Some Pure and Mixed Transfer Systems," Journal of Human Resources, 6, No. 2 (Spring 1971), pp. 149-170.

The work test approach places a premium on seeking work or appearing to, rather than on finding work and increasing earnings. That approach has not been successful. It is time to put reliance on individual initiative within a climate that provides incentives to both employer and employee.

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*U.S. President, Manpower Report of the President, 1975, Washington: U.S. Government Printing Office, pp. 41-42.

**Ibid., p. 107.

Incentives to Acquire Skills

Both the present welfare system and widely discussed Negative Income Tax plans result in far lower incentives to acquire skills than the labor market provides in the absence of Public Assistance. The high marginal tax rate on earnings reduces the gains to education, training and experience. A person with an opportunity to earn $3.00 per hour if skills are acquired and $2.00 per hour if they are not would face an increment of only $.50 per hour under a 50 percent marginal tax rate. Furthermore, the combined effect of basic guarantees and high marginal tax rates can reduce the amount of time the beneficiary expects to spend in the labor force and therefore the period of time over which any gains could be collected. As a result the rate of return to investments in education and training is sharply reduced.

Incentives Toward Family Dissolution

The present benefit structure for Public Assistance provides strong incentives for family members to remain apart. The combined income of the dependent family and working male is greater than when the male is present. Furthermore, it is sometimes possible for the women and children to receive more than the entire family received together when eligibility for programs such as food stamps and Medicaid are taken into account. Public Assistance benefits have been shown to exert a significant influence on the composition of low income families* (see section on female-headed households).

Avoiding a penalty for keeping families intact requires retention of a base payment when the male household head is present. This introduces the possibility of significant adverse work incentive effects. The ability to deal with the family dissolution incentives depends on the development of an effective method of providing work incentives to overcome the leisure-inducing effects of the guarantee.

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*See U.S. Congress, Joint Economic Committee, "The Family, Poverty, and Welfare Programs: Factors Influencing Family Instability," Studies in Public Welfare No. 12, Washington: U.S. Government Printing Office, November 1973.

A Proposal

The main criticisms of the welfare system are restated in Figure 3. In order to deal with most of them we have developed the "Incentive Maintenance Plan," shown in Table 4. The Incentive Maintenance Plan is not one but actually three separate plans, one for female-headed families, one for male-headed families, and one for individuals. The aged and the disabled are excluded from this analysis. The program is seen as replacing Aid to Families with Dependent Children, General Assistance, and Food Stamps.

The conditions of eligibility are as follows:

1. Female-headed families are entitled to both the basic guarantee and the earnings supplement without condition.
2. Male-headed families are automatically eligible for the earnings supplement. The eligibility for the guarantee payment is dependent upon the amount of previous employment of the head. We shall use a requirement of 3,000 hours of work during the preceding 3 years.
3. Husband-wife families without children are treated the same as those with children.
4. Individuals are automatically eligible for the earnings supplement but may not receive the guarantee.

A maximum of one member of any family may receive benefits for the family.

The figures in Table 3 are expressed at annual rates in 1976 dollars. It is assumed that benefit levels are adjusted to family size and geographic area. We will assume that the payments to included individuals are equal to half of those for family heads. The payment schedule can be viewed as a combination of three basic features.

1. There is a basic income guarantee--$3,000 for a family of four in 1976 dollars.

FIGURE 3

CRITICISMS OF THE WELFARE SYSTEM

- ADVERSE INCENTIVES
    - TO WORK
    - TO ACQUIRE SKILLS
    - FOR FAMILIES TO REMAIN TOGETHER
- INADEQUATE BENEFITS
    - LOW BENEFIT LEVELS
    - LACK OF COVERAGE OF THE WORKING POOR
- INEQUITIES
    - BETWEEN THOSE WHO WORK AND THOSE WHO DO NOT
    - AMONG GEOGRAPHIC AREAS
- INADEQUATE ADMINISTRATION
    - HIGH COSTS
    - DEMEANING TREATMENT
    - PAYMENTS TO INELIGIBLES

TABLE 4

PAYMENT SCHEDULE FOR AN "INCENTIVE MAINTENANCE PLAN," INTACT FAMILY OF FOUR, 1976 INCOMES AND DOLLARS

Guarantee	Earnings	Supplement	Total	Net Marginal Tax Rate In Interval
$3,000	$0	$0	$3,000	
$3,000	$1,000	$0	$4,000	.0
$2,000	$2,000	$1,000	$5,000	.0
$1,000	$3,000	$2,000	$6,000	.0
$0	$4,000	$3,000	$7,000	.0
$0	$5,000	$2,500	$7,500	.5
$0	$6,000	$2,000	$8,000	.5
$0	$7,000	$1,333	$8,333	.67
$0	$8,000	$ 667	$8,667	.67
$0	$9,000	$ 0	$9,000	.67

2. There is an income disregard--the first thousand dollars of annual earnings, allowing a total income of $4,000 with no benefit reduction

3. There is an earnings supplement for all persons with hourly earnings below a maximum level.

The minimum income which is guaranteed is set below the poverty line. The beneficiary is responsible for obtaining some earnings in order to reach a higher level of income. The guarantee is not close to the amount earned by full-time workers engaged in unskilled work.

In order to assure that the resulting increase in labor supply produces a rise in employment rather than unemployment, the earnings supplement is included in the computation of the minimum wage.

A minimum number of hours of work per year is required for the earnings supplement to restrict benefits to persons with wage rates of $4.00 per hour or less. Minimum annual hours requirements would be:

Earnings	Minimum Hours
$1,000	250
2,000	500
3,000	750
4,000	1,000
5,000	1,250
6,000	1,500
7,000	1,750
8,000	2,000

The earnings supplement increases by $1.00 for every dollar of earnings above the disregard until $4,000 is earned. The second thousand dollars earned is matched by a one thousand dollar earnings supplement and so on. But for each dollar earned above the disregard level the basic guarantee payment is reduced by one dollar until it reaches zero. Since the reduction in guarantee offsets the earnings supplement, the total income increases by the same amount as the increase in earnings until the first $4,000 is earned.

There is a strong incentive for men in families to work the 3,000 hours over 3 years to become eligible for the guarantee. The marginal tax rate is zero for all earnings below $4,000 -- there is no benefit reduction that will discourage employment within the range of earnings during which the decision is made by most low wage earners as to how often and how many hours to work. For unrelated individuals the incentive to reach the first few thousand dollars of earnings is particularly strong since the supplement represents a pure gain rather than a replacement of the guarantee.

For workers facing more discrete choices as to how much to work the marginal tax rates must be calculated by comparison of the initial and final earnings with the benefit reduction over the entire interval. The rates for each combination are shown in Table 5. For someone earning $2,000 on a part-time job for example, the tax rate on the additional income obtained by taking a full-time job at $6,000 is 25 percent.

The incentives noted are particularly strong for persons contemplating an increase in hours of work. The high marginal tax rates within the $4,000 to $9,000 interval, however, appear to discourage acquisition of skills which would raise hourly earnings. But the incentives to acquire skills in fact depend on the earnings opportunities at a much higher level. In 1976 the average annual earnings of a male laborer in a year-round full-time job will be $10,000. The

TABLE 5

CUMULATIVE MARGINAL TAX RATES FOR AN INTACT FAMILY OF FOUR UNDER THE INCENTIVE MAINTENANCE PLAN

Initial Earnings

Final Earnings	0	$1,000	$2,000	$3,000	$4,000	$5,000	$6,000	$7,000	$8,000
$ 1,000	.000		-	-	-	-	-	-	-
$ 2,000	.000	.000	-	-	-	-	-	-	-
$ 3,000	.000	.000	.000	-	-	-	-	-	-
$ 4,000	.000	.000	.000	.000	-	-	-	-	-
$ 5,000	.100	.125	.167	.250	.500	-	-	-	-
$ 6,000	.167	.200	.250	.333	.500	.500	-	-	-
$ 7,000	.238	.278	.333	.425	.556	.583	.667	-	-
$ 8,000	.292	.333	.389	.467	.583	.611	.667	.667	-
$ 9,000	.333	.375	.429	.500	.600	.625	.667	.667	.667
$10,000	.300	.333	.375	.429	.500	.500	.500	.444	.333
$11,000	.272	.300	.333	.375	.429	.417	.400	.333	.222
$12,000	.250	.272	.300	.333	.375	.357	.333	.267	.167

average for an operative will be $12,000. The incentive for a laborer earning $8,000 to acquire skills and become an operative earning $11,000 would be determined by the 22 percent tax rate in that entire interval rather than the 2/3 tax rate in the $8,000-$9,000 range. The incentive to acquire skills is determined largely by structure of earnings at different skill levels in the market.

The benefit levels are substantial. Inequities in benefits among persons with different amounts of work largely disappear. There are at least some benefits to working poor families with incomes below $9,000, a little above half of the 1976 median income, and there are particularly sizable contributions for those below 40 percent of the median.

Incentives to family break-up are reduced. A male earning $4,000 who returns to his wife and children would receive an earnings supplement which offsets part of the loss of her basic payment.

There is strong protection against fluctuations in income. Two-thirds of losses in earnings between $6,000 and $9,000 would be compensated by increases in the earning supplement. Fifty percent of losses between $6,000 and $4,000 would be made up. A family with a decline in earnings from $9,000 to $4,000 would have their income decline by only $2,000.

Calculations of approximate costs in 1976 are presented in Table 7. The estimates are conservative, making no allowance for growth in income from 1972 levels or for increases in income from greater work effort and increased formation of intact families induced by the plan. The estimates are based on the distributions of employed families and individuals by income in Table 6, calculated on the assumption that prices in 1976

TABLE 6

ESTIMATED NUMBERS OF NONAGED LOW INCOME FAMILIES AND INDIVIDUALS IN 1976*

(thousands of 1976 dollars)

	Families with Male Head	Families with Female Head	Unrelated Individuals
Number			
Under $1,000	238	213	890
$1,000-$1,999	133	296	865
$2,000-$2,999	412	411	887
$3,000-$3,999	436	507	752
$4,000-$4,999	718	529	471
$5,000-$5,999	887	472	672
$6,000-$6,999	773	317	548
$7,000-$7,999	1,208	362	717
$8,000-$8,999	1,484	311	556
$9,000-$9,999	1,653	295	603
Cumulative Number			
Under $1,000	238	213	890
$1,000-$1,999	371	509	1,755
$2,000-$2,999	783	920	2,642
$3,000-$3,999	1,219	1,427	3,394
$4,000-$4,999	1,937	1,956	3,865
$5,000-$5,999	2,824	2,428	4,537
$6,000-$6,999	3,597	2,745	5,085
$7,000-$7,999	4,805	3,107	5,802
$8,000-$8,999	6,289	3,418	6,358
$9,000-$9,999	7,942	3,713	6,961

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*Assumes no growth in real income or population between 1972 and 1976.

Source: U.S. Bureau of the Census, "Current Population Reports, Consumer Income, Money Income in 1972 of Families and Persons in the United States," p. 60, No. 90, December 1973.

TABLE 7

COST AND COVERAGE OF ILLUSTRATIVE INCENTIVE MAINTENANCE PLAN, 1976

Gross Cost (billions)		
Male-Headed Families		$13.0
Female-Headed Families		8.4
Unrelated Individuals		3.7
less ineligibility due to minimum hours requirement (8%)		-2.1
	TOTAL	$23.0
Reductions in Program Cost (billions)		
AFCD (100%)		$ 9.0
General Assistance (100%)		.9
Food Stamps (75%)		3.8
Unemployment Insurance (10%)		.5
	TOTAL	$14.2
Net Cost (billions)		$ 8.8
Covered Families (millions)		
Male-Headed (95%)		6.1
Female-Headed (95%)		3.2
Covered Persons (millions)		
In Male-Headed Families (4 members)		24.4
In Female-Headed Families (4 members)		12.8
Unrelated Individuals (75%)		4.8
	TOTAL	42.0

would be 1/3 above the 1972 level. The reduction in eligibility due to minimum hours requirements is assumed to reduce costs by 8 percent. The resulting estimate is a cost of $23.0 billion before allowance for offsetting reductions in other programs.

The Incentive Maintenance Plan would be expected to fully replace Aid to Families With Dependent Children and General Assistance. It is assumed that one-fourth of Food Stamps expenditures would be retained in some form for nutrition programs. The reduction in expenditures in unemployment insurance is assumed to be 1/10 of program costs. These values are based on average economic conditioning rather than recession. The combined offset is estimated at $14.2 billion. The net cost of the Incentive Maintenance Plan is $8.8 billion. The cost would be lower if other categorical programs were also replaced.

The program would cover approximately 37 million persons in 9 million families and about 5 million unrelated individuals. About 3/5 of covered persons would be in low income male-headed families. The coverage compares to 20 million non-aged low income persons according to the standard definition, 30 million below 125 percent of the low income level, and 40 million below 150 percent of the low income level in 1972.

The $8.8 billion net cost of the Incentive Maintenance Plan is greater than the poverty income gap based on the Orshansky poverty line. The poverty income gap for the non-aged will be about $5 billion in 1976.* The poverty income gap calculated on the basis of a poverty line which rises 60 percent as fast as per capita income will be about $10 billion however. The cost of the plan is slightly lower than the poverty income gap on this basis.

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*In current dollars, excluding the effects of recession, allowing for normal economic growth, taking account of all transfer payments.

APPENDIX

Appendix A

WORK INCENTIVE EFFECTS

The Greenberg and Kosters estimates take into account reductions in both hours of work and labor force participation of male family heads. Changes in earnings of other family members are excluded. The estimates are gross. That is, they consider the effects of introducing a schedule of guarantee levels and marginal tax rates on the behavior of the labor force from an initial position in which an income maintenance program is not in effect.

The estimates are based on the average response of the general population to changes in income and wage rates. There are two crucial assumptions inherent in this procedure. First it is assumed that the responses of persons who currently have low incomes will be the same as persons with greater incomes. Yet these groups differ in the extent of pressures of poverty, the availability of work opportunities and in the regularity of work habits and experience and may be self-selected on the basis of attitudes toward work and leisure. Without any such differences Greenberg and Kosters note that work incentive effects of various Negative Income Tax types of plans are so large as to produce a decrease in earnings plus subsidies for blacks, simply because the income levels are so low as to make the income guarantees more attractive.

The other assumption is that the effects of an income maintenance plan can be measured by the effects of general income and wage rate changes. Because of the way in which payments are conditioned on employment and earnings, the effects of an income maintenance plan can actually be quite different. This point is illustrated in Figure A-1.

Each indifference curve shows the trade-offs between income and leisure which gives a person the same amount of satisfaction. Each budget line shows the market opportunity for substituting work and leisure at a given wage rate. The classical case is shown in Panel A. The employee will choose the highest indifference curve which is tangent to the budget line in order to maximize his level of utility. The effect of an increase in the wage rate (analagous to a decrease in the marginal tax rate) is to allow receipt of a higher level of income for a given amount of work effort, reflected as a steeper budget line. Through an income effect the employee is shifted to a higher indifference curve (AB) increasing his leisure. Through a substitution effect the higher wage rate induces a move along the new indifference curve in the direction of greater work effort (BC). The net change in quantity of work depends on the relative strengths of the income and substitution effects.

An increase in income from sources other than earnings is depicted as a parallel shift in the budget line since income is greater by the same amount at each number of hours worked. The result of a pure income effect is an unambiguous decline in hours of work.

The effects of the introduction of guarantee levels and marginal tax rates are shown in Panel B. A guarantee level G may produce a combination of income and leisure which is valued either more or less than the initial market position. The choice is now a discrete one for the individual. If the indifference curve passing through point B (I_1) is higher than the curve which is tangent to the free market budget line, the worker will choose dependency. If it is lower he will choose to continue his initial level of effort. In the situation depicted the worker is exactly indifferent between his initial work effort and dependency.

When both a guarantee and a marginal tax rate are introduced there is again an ambiguity as to the preferred position. The marginal tax rate enters as a reduction in the slope of the budget line since less income is retained for each additional hour of work. If the guarantee level is sufficiently low and the marginal tax rate sufficiently high the new budget line will be tangent to a lower indifference curve than I_1 and the individual's work behavior will not be affected. In the situation shown the individual entering the income maintenance program moves to a new level of satisfaction I_2 determined by the intersection of the budget line and the indifference curve at point C.

From this analysis it is apparent that the size of the effects of introducing a guarantee (AB for some, zero for others) and the effects of adding a change in the marginal tax rate to an existing guarantee level (BC or zero), can be very different from the values estimated from responses to variations in unearned incomes and wage rates. The implication is that better estimates can be obtained by determining behavior when welfare benefits themselves are varied. However, the available evidence of this type is not without problems also.

Earlier studies of the effects of welfare focused on variations in labor force participation among states.* Differences associated with welfare benefit levels were taken to represent the effects of welfare on labor supply. However, there are indications that much of the relationship may reflect causality in the reverse direction. Labor force participation rates of females in 1968-69 in six cities covered by BLS employment surveys were as follows:

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*C.T. Brehm and T.R. Saving, "The Demand for General Assistance Payments," American Economic Review, 54, No. 6 (December 1964), pp. 1002-1018.

Labor Force Participation Rates of Females 20 and Over

	White	Non-White
Atlanta	39.7%	57.6%
Chicago	n.a.	49.6
Detroit	38.1	41.9
Houston	39.0	61.3
Los Angeles	38.9	45.2
New York City	32.7	49.2

The labor force participation rates are particularly low in Atlanta and Houston. Table A shows that the lowest AFDC benefit rates existed in Georgia and Texas. But high participation can easily be attributed to the strong labor market demand. Kasper introduced additional variables into an interstate model to control for this effect.* However, the benefit rate itself appears to be dependent on labor market conditions. Where demand is strong welfare is likely to include persons who least desire to work. Just as benefit rates are set higher for the disabled, they are set higher when lack of productive activity is less voluntary. Existing estimates fail to take this into account.

Most of the available direct evidence on the welfare system deals with the effects of income guarantees and does not provide much information on the effects of changes in marginal tax rates. The consideration of more extensive changes than it is possible to observe in practice led to the establishment of a series of income maintenance experiments.

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*Hirschel Kasper, "Welfare Payments and Work Incentive: Some Determinants of the Rates of General Assistance Payments," Journal of Human Resources, 3, No. 1 (Winter 1968), pp. 86-110.

TABLE A

AVERAGE MONTHLY PUBLIC ASSISTANCE PAYMENT PER RECIPIENT, DECEMBER, 1968

	Georgia	Illinois	Michigan	Texas	California	New York
Old Age Assistance	$51.40	$65.55	$70.55	$60.00	$105.55	$ 97.30
Aid to the Blind	62.30	84.65	91.65	72.40	144.20	117.05
Aid to the Permanently and Totally Disabled	61.00	86.95	91.15	60.60	122.35	101.30
Aid to Families with Dependent Children	24.50	46.55	46.75	18.85	48.40	64.75
General Assistance	-	47.85	35.00	-	44.55	62.85

Source: U.S. National Center for Social Statistics, unpublished tables.

Benefits were administratively controlled at several levels and behavior of participants was compared with control groups in the regular system.[*]

The experiments encountered a number of difficulties. Perhaps the most serious is that only partial adjustments of participant behavior could be observed in an experiment of in most cases 3 years. It is not only that participants do not have sufficient time to adjust their training levels, residential location, family size, occupational choice, etc. to new opportunities, but they have little incentive to fully adjust when the experiment is of limited duration.

The income maintenance experiments resulted in estimates of work responses to variations in marginal tax rates which are much lower than estimates obtained by other means.[**] Because of the difficulties experienced it is not recommended that these estimates be used as the basis for policy at this time.

As part of the present study an analysis was performed of the effects of welfare benefits on unemployment and labor force participation rates of black teenagers. AFDC rules count earnings of children under 18 not in school as income for the purpose of determining family eligibility for benefits. This raised the possibility that high school dropouts would have a lower incentive to seek work where welfare benefits were particularly attractive.

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[*] This approach has the advantage in principle of being able to determine the correct incentive effects shown in panel B of Figure A-1.

[**] See "Symposium Articles--The Graduated Work Incentive Experiment," Journal of Human Resources, 9, No. 2 (Spring 1974) and Irwin Garfinkel, "Income Transfer Programs and Work Effects: A Review," "How Income Supplements Can Affect Work Behavior," Studies in Public Welfare, No.13, U.S. Congress, Joint Economic Committee, Subcommittee on Fiscal Policy, Washington: U.S. Government Printing Office, February 1974, pp. 1-32.

The change in unemployment rate of 16-17 year old black males between 1960 and 1970 was plotted against the change for 18-19 year old black males during the same period. The scatter of points was then examined to see whether unemployment rates tended to be higher than expected based on general conditions in the states with the largest benefit increases. A similar test was performed for labor force participation. The data are necessarily subject to considerable errors. No evidence was found of an impact of AFDC benefit rates or unemployment rates or labor force participation rates of black male teenagers.*

There is not much evidence as the effects of income maintenance and earnings on labor force participation and hours of work of different population groups. Two recent studies by Boskin and Hill have found substantially different behavior for the poor and for blacks in addition to previously documented differences by age and family status. These studies suggest that annual hours of work of poor black males of prime working age may be less sensitive than those of non-poor blacks and whites to changes in income maintenance benefits.** Saks, however, found strong substitution effects of wage changes among AFDC recipients in New York City.***

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*The problem of simultaneity would only have increased the chances of finding a relationship.

**Michael Boskin, "The Economics of Labor Supply," Income Maintenance and Labor Supply, Econometric Studies, edited by Glen Cain and Harold Watts, Chicago: Rand McNally Publishing Company, 1973, pp. 163-181, C. Russell Hill, "The Determinants of Labor Supply for the Working Urban Poor," Cain and Watts, op. cit. pp. 182-204.

***David Saks, "Urban Labor Markets and Public Assistance," Annual Report, National Bureau of Economic Research, 1974, pp. 47-48.

FURTHER ISSUES IN INCOME MAINTENANCE AND SOCIAL INSURANCE

Policies Toward Unemployment

Unemployment Insurance

The Unemployment Insurance system has generally provided for replacement of 50 percent of an individual's weekly wage up to a maximum level, with the maximum typically set at about half of the average wage in covered employment. Coverage has been nearly complete except for the exclusion of employment in state and local government, non-profit organizations, domestic service, farms, agricultural processing and very small firms. Benefit levels have increased over time at about the same rate as wages.

The provision of regular benefits has been supplemented by programs to provide extended benefits during periods of recession. An important feature in the acceptability of these programs is that they come into operation when unemployment is least voluntary. Extended unemployment benefits were introduced at the Federal level on a temporary basis in 1968 and 1971 and at various other times by individual states. The Unemployment Compensation Act of 1970 established a system under which an additional 13 weeks would automatically be payable under 50-50 state and Federal funding whenever the insured unemployment rate averaged 4.5 percent or more for 3 consecutive months. In addition, states would become eligible for a 50 percent Federal contribution to extended benefits for 13 weeks if the state's insured unemployment rate averaged 4 percent or more for 13 consecutive weeks and exceeded the average for the previous two years by 120 percent.[*] In 1974 and 1975 the 120 percent requirement was temporarily waived to avoid excluding areas that had chronically high unemployment rates. The benefits paid under the extended and supplemental unemployment benefits programs through 1973 are shown in Table 1. Under the influence of the economic downturn, unemployment insurance benefits under all programs swelled to $17.5 billion in Fiscal Year 1976, three times their normal level.[**]

The unemployment compensation system covers a broad spectrum of the population, providing protection against income loss to families well above poverty income levels. Estimates prepared by Feldstein for 1967 (Table 2) show that while 28 percent of all families had incomes below $5,000, these families received 17 percent of the benefits. Inclusion of extended and supplemental benefits in years of more severe unemployment might result in a proportionately greater share of benefits for the lowest income families but would nevertheless indicate a substantial majority of benefits to families above poverty levels. The degree of income replacement provided by these benefits is particularly great for persons earning below $10,000. Thereafter the benefit maximum operates to reduce the share of income loss that is replaced as incomes rise.

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[*] Merrill Murray, The Duration of Unemployment Benefits, The W.E. Upjohn Institute for Employment Research, Washington: 1974.

[**] There are 7 types of unemployment insurance--regular state, regular UCFE (Federal employees), regular UCX (ex-servicemen), regular railroad, Federal-state extended benefits (extra 13 weeks), Federal supplemental (exhaustees of extra 13 weeks), and special unemployment assistance (persons not covered under existing programs--persons in uncovered employment and exhaustees of supplemental benefits). Private unemployment insurance has not been widespread, occurring in only 15 percent of firms and growing little in the last decade. Severance pay is limited to 56 percent of firms and does not deal with the particularly severe problems of long-term unemployment. See The Conference Board, Profile of Employment Benefits, New York: The Conference Board, 1974.

TABLE I

EXPENDITURES UNDER EXTENDED AND SUPPLEMENTAL UNEMPLOYMENT BENEFITS PROGRAMS, 1958-1973

(Millions)

Cal. Yrs.	Extended Benefits (States and 1970 law)	Temporary Extended Unemployment Compensation (1961 law)	Temporary Unemployment Compensation Program (1958 law)
1958			$398.2
1959			202.5
1960			
1961	$24.0	$540.2	
1962	35.3	193.1	
1963	57.4		
1964	57.0		
1965	64.7		
1966	1.5		
1967	.5		
1968	1.6		
1969	1.0		
1970	38.7		
1971	39.2		
1972	664.1		
1973	481.5		

Source: U.S. Department of Labor, Manpower Administration.

TABLE 2

CUMULATIVE DISTRIBUTION OF UNEMPLOYMENT INSURANCE BENEFICIARIES AND BENEFITS, 1967

Income Excluding Unemployment Compensation	Percentage of all Families with Incomes Below Level	Percentage of Families Receiving Unemployment Compensation with Incomes Below Level	Percentage Of Benefits to Families with Incomes Below Level
$3,000	16%	7%	16%
$5,000	28	18	17
$7,000	39	30	29
$10,000	53	48	48
$12,000	61	60	59
$15,000	71	73	72
$20,000	82	86	85
$25,000	89	93	92

Source: Martin Feldstein, "Unemployment Compensation: Adverse Incentives and Distributional Anomalies." Harvard Institute of Economic Research, Discussion Paper, 1973. Table 2.

Substantial numbers of persons are excluded from unemployment insurance benefits because they have insufficient employment to establish eligibility. Table 3 shows the distribution of unemployed by reason of unemployment in 1973. Forty-six percent of the unemployed had either re-entered the labor force or never worked before. Among 16-19 year olds these categories accounted for 71 percent. Many of these were not primary workers, but even among unemployed males age 20 and over, 22 percent had re-entered the labor force. The Incentive Maintenance Plan proposed previously would aid groups such as this.

There has been considerable controversy over how high benefits of unemployment insurance should be. Feldstein and others argue that when the tax-exempt status of unemployment insurance benefits and the eligibility for food stamps and other programs are considered, earnings replacement rates for many workers (primarily those who earn less than $200 per week) become so high as to discourage work. At the same time, much of the cost goes for payments to secondary workers in families whose incomes are not low.* Counterarguments made by Gramlich and others emphasize the objective of replacing family income rather than the earnings of the family head alone. Income reductions caused by loss of overtime, involuntary part-time work, much of the loss of employment of secondary workers and loss of employment in uncovered firms are not replaced.** There is some evidence that the unemployment

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*Martin Feldstein, "Lowering the Permanent Rate of Unemployment," prepared for the Joint Economic Committee, Congress of the United States, Washington: U.S. Government Printing Office, September, 1973.

**Edward Gramlich, "The Distributional Effects of Higher Unemployment," Brookings Papers on Economic Activity, 2 (1974), pp. 293-341.

TABLE 3

DISTRIBUTION OF UNEMPLOYED BY AGE AND REASON FOR UNEMPLOYMENT, 1973

	Both Sexes 16-19 Years	Male, 20 Years And Over	Female, 20 Years And Over	Total
Number (thousands)	4,304	1,225	1,594	1,485
Distribution				
Lost Last Job	17.2%	59.1%	34.6%	38.7%
Left Last Job	11.8	15.9	18.6	15.7
Reentered Labor Force	29.5	21.6	41.5	30.7
Never Worked Before	41.5	3.4	5.3	14.9
TOTAL	100.0%	100.0%	100.0%	100.0%

Source: U.S. President, *Manpower Report of the President, 1973*, Table A-21.

insurance system adds to the overall unemployment rate as the price of obtaining protection against income loss. It also allows workers to wait for jobs with higher earnings and which make use of their skills.*

The Incentive Maintenance Plan replaces the food stamp program and by doing so removes the additional effects on work incentives which the introduction of food stamps created. The applicant can choose between the Incentive Maintenance Plan or Unemployment Insurance if he is eligible for both. But since the maximum benefit under the Incentive Maintenance Plan is $60 per week for a family of four, only families normally earning about $120 per week would be likely to choose it while unemployed.

There would be a greater tendency for larger families to choose the Incentive Maintenance Plan since its benefits increase with family size. This provides an indirect way of providing higher short-term benefits to larger families for whom the pressure of the family size itself provides an incentive to seek employment. But it does so in a way which would not complicate the administration of the unemployment insurance system.

At the same time as the unemployment insurance system has been under attack for providing too much income loss protection it has also been attacked for not providing enough protection to higher-income families and for paying benefits without providing the dignity or productivity of work. These concerns have been a major source of the growing interest in public service employment.

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*Arlene Holen and Stanley Horowitz, "The Effect of Unemployment Insurance and Eligibility Enforcement on Unemploymemt," Journal of Law and Economics, 17, No. 2 (October, 1974), pp. 403-432 and Raymond Munts and Irwin Garfinkel, The Work Disincentive Effects of Unemployment Insurance," Kalamazoo, Mich.: The W.E. Upjohn Institute, September, 1974.

Public Service Employment

Under the Emergency Employment Act of 1971, $2.25 billion was spent on the Public Employment Program (PEP) to create jobs for more than 400,000 persons. The program went into operation when the national unemployment rate exceeded 4.5 percent for three consecutive months and provided additional funding for areas with unemployment of 6 percent or more for three consecutive months.

The program was superseded by the Comprehensive Employment and Training Act of 1973 which provided funds only for areas with unemployment rates of 6.5 percent or more for three consecutive months. The CETA program allowed funds to be used for a wide range of manpower services under Special Revenue Sharing and not necessarily on public service employment. The maximum salary that could be subsidized in public service employment was reduced from $12,000 to $10,000 and special consideration was given for those with the lowest prospects of finding jobs.

The Emergency Jobs and Unemployment Act of 1974 obligated $875 million in Fiscal Year 1975 in addition to the more than $1 billion for CETA. This program concentrated funds in high unemployment areas and gave a preference to unemployment insurance exhaustees and ineligibles who were unemployed for 15 weeks or more.

Public service employment programs have two very different types of objectives. They seek to provide "work support" for the hard to employ and they also seek to provide more general income replacement. The greatest value appears to be in aiding Public Assistance recipients and others who are chronically out of work.* Because of the special problems and disadvantages in this group, proper supervision is especially important in order to overcome poor work habits and lack of education, training and experience and to create productive situations. There appears to be a viable method for accomplishing this.

The PEP experience was considered successful in terms of the speed and efficiency with which aid was provided, the degree to which the target population was reached, the amount of real work performed and the number of persons working after leaving PEP jobs.**

The Public Employment Program made placements based on specific requests by government departments for small numbers of individuals. The departments would provide day-to-day supervision and training and in turn receive a resource which was not charged to their own budgets. The pattern is in marked contrast to the notion of a large core of public service employees isolated from regular workers and assigned standardized tasks. This difference appears to account for the program's success. Used moderately, such an approach seems likely to increase the chances that the employees will obtain adequate supervision and be channeled where a useful service can be provided.

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*Robert Haveman, "Work-Conditioned Subsidies as an Income Maintenance Strategy: Issues of Program Structure and Integration," U.S. Congress, Joint Economic Committee, Subcommittee on Fiscal Policy, Studies in Public Welfare No. 9, Concepts in Welfare Program Design, Washington: U.S. Government Printing Office, August, 1973, pp. 33-67.

**U.S. President, Manpower Report of the President, April, 1974, Washington: U.S. Government Printing Office, 1974.

Public service employment may become far less effective when used as a mandatory system for large numbers of potential welfare eligibles. Development of cadres of public service employees working on relatively standard tasks is a direct result of efforts to find useful work on a centralized basis. The experience with such efforts is uneven when limited to relatively small groups under carefully developed conditions.* We cannot assume that a complete breakdown of the management system can be avoided if a widespread public service employment requirement were adopted.

An alternative approach for dealing with the chronically hard to employ is to provide inducements for employment in the private sector. Beginning in 1971 a credit equal to 20 percent of the first year's wages was made available to employers who hired participants in the Work Incentive Program and retained them for a second 12 months. The program was extended to include all AFDC recipients in 1974. There has been little participation to date. This probably is the result of the small size of the tax credit--only about 10 percent of the first two years' wages. The credit is particularly small when compared with the subsidy which public service employment usually entails.

The tax credit idea merits further experimentation. However, tax credits should not be considered a substitute for the employmentinducing effects of work incentives such as provided by the earnings supplement under the Incentive Maintenance Plan. Rather it provies compensation for the added costs of working with those who are hardest to employ.

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*An interesting example is the experience of the Wildcat program for treating ex-addicts in New York City. For a description of the experiences and a cost-benefit analysis see Vera Institute of Justice, First Annual Research Report on Supported Employment, October, 1973.

When public service employment is expanded to a broader population and used as an alternative to unemployment insurance a number of serious problems arise. The costs of public service employment are far higher, typically about $10,000 compared with $5,000 for unemployment insurance. There are strong pressures for those costs to rise. These have been partly limited by pay ceilings in the legislation. But Federal public service funds substitute for local funds. It is possible for the cost per job created to be much higher if program funds replace low salary jobs that would have existed anyway and free up other funds for creation of even higher paying jobs.

A particularly serious problem is the great uncertainty as to the level of productivity which can be achieved. A payment of $10,000 to someone who would otherwise receive $5,000 in unemployment insurance might be worthwhile if the value of his or her output was $5,000. But once the program is large it becomes more necessary to set up production in pools of people to produce standardized products. There is reason to question the adequacy of incentives to produce and the usefulness of the product in many situations of this type.

Any reservations about the productivity of short run programs are greatly compounded by the possibility that programs which are set up to be temporary will continue in operation long after the need for them no longer exists. While the use of unemployment "triggers" can in principle automatically vary the funding with the business cycle, there are great pressures to use these programs to solve longer-term problems during periods of prosperity even when superior solutions exist.*

Public works expenditures which have been considered in a similar vein avoid some of these problems. But they are particularly subject to inclusion of projects of questionable value, often take too long to get started, continue too long to be useful as a short run tool and may have difficulties in obtaining local matching in times of economic distress.

If the objective is to create real jobs which provide the dignity of work, socially useful products and regular income, there is no reason why jobs which are lost in the private sector should not be replaced there. The most effective method of stimulating private employment during periods of economic decline is through tax cuts. Longer-term employment problems can be dealt with through the use of an earnings supplement and through public service jobs and tax credits on a selective basis for the hard to employ.

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*Much recent discussion has centered around the question of the extent to which Federal funds for public service jobs simply replace local funds which would have been spent anyway (for example see Manpower Report of the President, April, 1975, p. 46). These studies fail to recognize that if local funds are replaced then state and local tax collections will be lower than they otherwise would be. The result is an indirect tax cut which stimulates private employment.

Pension Issues

Social Security

Major initiatives have taken place in the Social Security program. Minimum pension benefits based on earnings increased from $55 per month in January 1967 to $94 per month in January 1974. The rise in benefits of 71 percent came during a period when prices were increasing by 42 percent. The result was a 20 percent rise in real benefit levels. Benefits were tied to consumer prices after 1974.

The cost of Social Security has been very high because of "grandfathering in" persons who were not covered during their entire working lives. As a result, benefit schedules reflect a low rate of return on contributions. There also will be heavy demands on the system early in the next century as the large number of "war babies" reach retirement age and as the subsequent drop in the birth rate reflects itself in a relatively smaller labor force.

The Social Security program primarily has been financed on a "pay as you go" basis with current collections covering the costs of benefit payments. This method has serious deficiencies. The benefits paid reflect two main objectives--the provision of benefits based on pension contributions and the subsidizing of the low income aged. The responsibilities for meeting these objectives are not clearly separated. The subsidy should be the responsibility of general revenue sources of the Federal Government while actuarially calculated benefits are financed by Social Security tax collections. The payments, however, should continue to be combined and distributed in a single check. Costs of "grandfathering in" persons who were not in the system long enough to cover the costs of their own benefits should also be general obligations of government. Such a system could be introduced gradually by funding new obligations according to these criteria.

The revision of benefit levels for those who are already retired raises further issues which are discussed in the section on "The Distribution of Economic Progress."

Private Pensions

Poverty is influenced in two ways by the conditions attached to private pension plans. Unless pensions are adequately protected, employees may lose the benefits of employer contributions if they change employers. Furthermore, a firm which makes pension payments only to employees who are already retired finds that the cost of retaining an employee increases dramatically as he nears retirement age. This creates an incentive for the firm to discharge an aged employee just before he becomes eligible for the pension and for firms with many older workers to go out of business or change corporate identity. The 1974 pension reform bill makes significant steps in requiring current payment of pension obligations into insured funds and providing vesting after a period of continuous service. However, in the near future the costs of guaranteeing existing benefits will slow the growth of private pension benefits.

Pension plans provide close to an adequate level of replacement of income at the time of retirement for less than half of the population. A survey of 28 private pension plans in 1969 found that the median rate of income replacement for low earnings workers was 28 percent of pre-retirement income. The addition of Social Security benefits would raise the replacement rate to 73 percent for a single person and higher for someone receiving Social Security benefits for their spouse as well.* In spite of this substantial problems remain.

Private pensions do not cover half of the labor force. There are no minimum standards of coverage and some private plans replace only a small fraction of income. Furthermore, private pension benefits do not usually increase with the cost of living so that real incomes fall rapidly with advancing age. If private pension benefits are viewed as an add on to Social Security benefits it would be reasonable to have great diversity as long as Social Security reached an acceptable minimum standard itself. But the range of benefits and the extensive lack of coverage and protection against inflation suggest that further extensions of benefits would be desirable.

The value of private pension benefits may be increasingly dependent on the way they deal with inflation. At present cost-of-living increases are rare. The effect of an increase in the rate of inflation is to raise the interest rate earned on investments. Such gains only accrue to employees when pensions are fully funded on a current basis so that the interest is retained in the fund. The protection provided by fluctuations in interest rates is very uneven. Interest rates do not rise by as much as the inflation rate unless the inflation is expected to remain at a permanently higher level If inflation rose and then subsided to its original level benefits would be higher only for the period when inflation was rapid. After inflation fell the real purchasing power of the invested sum would be permanently lowered. Periodic bursts of inflation may produce a considerable loss of the purchasing power of benefits. A shift to a permanently higher rate of inflation will raise benefits substantially on a once and for all basis without keeping up with price increases on a current basis. Increased funding of pensions will improve the ability of private pensions to keep up with inflation. Further improvements can be brought about by investment of pension funds in a wide range of financial instruments including new instruments which may be developed such as indexed mortgages.

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*Peter Henle, "Recent Trends in Retirement Benefits Related to Earnings," Monthly Labor Review, 95, No. 6 (June, 1972), pp. 12-20.

The Distribution of Economic Progress

In the chapter on revision of poverty standards over time it was noted that less than four-tenths of the growth in real per capita income in the U.S. economy since 1929 has been attributable to changes in the quantities and qualities of factors of production. Six-tenths of growth in per capita income is attributable to advances in knowledge, economies of scale and similar factors.

Gains attributable to specific changes in the quantities of factors of production accrue as payments for wages, rents, etc., directly to the owners of productive capacity. The way gains attributable to general sources of productivity growth are distributed depends, however, on the degree of price flexibility in the economy. The distribution of income which results is not the same as would occur if productivity gains from general sources were passed through a decline in the general price level. Because prices are inflexible downward (see Chapter III) benefits depend on the ability of wage rates to increase. Population groups who receive income from transfer payments will not share in the gains unless policies are established to assure "progress-sharing." This can be seen by considering the incomes of the largest such group--the aged.

The aged depend mostly on pensions and derive only a relatively small portion of their incomes from employment. As a result their incomes do not automatically rise with general productivity gains as they would if income were in the form of wages and salaries. Few private pensions even keep pace with changes in the cost of living and neither private pensions nor Social Security are explicitly adjusted to take into account the growth in real income over time.

If we accept the proposition that the growth in real income per capita attributable to general sources of productivity change should be shared generally, some very important implications follow. Within a range which we can now define it is no longer valid to view the costs of raising benefits under Social Security either as an unfair tax on the rest of society or as a philanthropic transfer which younger populations made to the aged from their resources on their own volition. Neither can most of the future claims on the Social Security trust funds be regarded as deficits. Instead, a substantial rise in benefit levels with rising real incomes is necessary simply to restore benefits which would have accrued to the aged automatically if the structure of institutions had allowed prices to fall with economic progress.

There has been concern that Social Security benefits have been growing at a rate which is more rapid than is appropriate for the future. But there has been no conceptual way of viewing these changes and determining the appropriate amount of increase. Sharing of general sources of economic progress implies an increase in Social Security benefits based on the change in the Consumer Price Index plus about three-fifths of the rate of change in real wage rates.[*]

The actual rate of growth of the Social Security benefit rate for a retired worker was .8 percent per year between 1954 and 1974.[**] This is less than one-third of the 2.7 percent per year average increase in real median family income and only about half of the growth of real income per capita attributable to general sources.*

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[*] In the long run the rate of interest will depend on the rate of productivity advance while the principal will not. The three-fifths rate should therefore only be applied to the principal. The rate applied to benefits payments which contain both interest and principal would be somewhat different than three-fifths. The exact amount easily can be determined actuarially.

[**] The increase in the average benefit of retired workers was 2 percent per year. The average will rise because nearly retired workers will tend to have higher earnings than already retired workers as a result of the growth of earnings over time. The .8 percent figure excludes this effect.

The notion of "progress sharing" contains direct implications as to the efficacy of paying for increases in Social Security benefits through taxation on current versus future generations. From a decision to share progress from general sources of productivity growth it follows that the distribution of current economic gains to the aged is a responsibility of current generations, not appropriately handled through a tax on future income growth. A consistent method of financing is implied.

Social Security taxes are collected by a uniform percentage tax on earnings up to a maximum level. The earnings limit above which earnings are not taxed is increased automatically with changes in the Consumer Price Index. If Social Security benefits were increased at three-fifths of the rate of growth of output per worker it would be appropriate to raise the earnings limit to which the tax rate applies correspondingly. If the earnings limit were increased in an amount related to the rate of growth of productivity then revenues would rise so as to provide much of the funding required for a progress-sharing policy.**

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*Future patterns can be expected to be quite different under current formulas. See Lawrence Thompson, "An Analysis of the Factors Currently Determining Benefit Level Adjustments in the Social Security Retirement Program," Technical Analysis Paper No. 1, Office of Income Security Policy, Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health, Education and Welfare, September, 1974.

**More complete determination of the funding requirements of such a policy and the contribution of revenue from an "indexed" earnings base entail a detailed analysis of Social Security finances which is beyond the scope of this study.

Similar considerations apply more simply to other groups dependent on transfer payments. A progress-sharing policy would automatically raise the benefits for the disabled under the Supplemental Security Income program and the benefits under Public Assistance by three-fifths of the rate of growth of productivity as well as by the rise in the cost of living. Under the proposed Incentive Maintenance Plan the basic guarantee would be raised in this way. It should be noted that this is substantially less rapid than the rate of rise of Welfare benefit levels which occurred in the 1960's.

Such a policy would have significant implications for the introduction of work incentives into the Welfare system. If it does not become possible to increase work incentives by an earnings supplement or a substantial reduction in marginal tax rates then the basic guarantees under present programs are likely to continue for some time. If a policy is adopted of raising the benefit rates three-fifths as fast as increases in real per capita income then as time goes by the guarantee level and the earnings levels provided in the marketplace will increasingly diverge. As a result the incentives to seek work will continue to rise and eventually become quite substantial. In the long run this provides a fallback position if Welfare reform does not produce the work incentives which are desired.

The progress-sharing rule can easily be applied to raise the income level below which no personal income tax is paid. This would avoid a situation in which taxes added to the marginal tax rates of persons eligible for income maintenance simply because of the growth of the economy. Any changes of this kind are of course in addition to increases to take account of rises in the cost of living.

In short run policy-making the issue arises as to whether losses as well as gains should be shared. The hardship faced by those with already low incomes suggests that cuts in real benefits should be avoided even if the growth of benefits is deferred in times of economic stress.

The progress-sharing rule of distributing three-fifths of the gains in productivity in the national economy provides a useful criterion for revising benefit levels of transfer payment programs over time and meets important equity and incentive objectives.

ASPECTS OF URBAN DEVELOPMENT

The nation's cities have been undergoing extensive changes. These affect the structure and composition of the central city, the relationship of the central city to areas outside its boundaries and the very nature of the cities themselves. The course of urban development has important implications for the future position of the poor and minorities, the level of capital and operating expenses, the value of alternative financing systems, the location of economic activity and the type of planning which will be required.

The Position of the Central Cities

The central cities, particularly of the largest and oldest cities, have begun to look demographically like the ghetto areas within those cities did in the past. The proportion of the population composed of blacks and Spanish-Americans has been growing rapidly. Between 1960 and 1973 the number of blacks inside central cities rose by 4 million or 40 percent while the number of whites declined by 2.2 million or 4 percent.* The white population consists of a growing share of aged as younger whites move out. The spread of blacks to some suburban core towns represents a part of this same pattern continuing beyond political or statistical boundaries.

These changes are reflected in the growing income disparities between central cities and suburbs. Table 1 compares the income levels of core and fringe counties of greater metropolitan areas in 1959 and 1969. During

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*U.S. Bureau of the Census, "The Social and Economic Status of the Black Population in the United States, 1973," Current Population Reports, Special Studies, p. 23, No. 48, 1974.

TABLE 1

DIFFERENCES IN MEDIAN FAMILY INCOME BETWEEN CORE AND FRINGE COUNTIES OF GREATER METROPOLITAN AREAS, 1959-1969

	All Races			Blacks		
	1959	1969	Percent Change	1959	1969	Percent Change
Total	$6,620	$11,034	66.7%	$4,292	$7,595	77.0%
Core	6,481	10,591	63.4	4,324	7,522	74.0
Fringe	6,980	11,990	71.3	3,969	8,246	107.8

Source: U.S. Department of Agriculture, "Social and Economic Characteristics of Metropolitan and Nonmetropolitan Counties, 1970," Report No. 272, Washington, March, 1975, Appendix, Table 16.

the period the median income of families in the fringe areas rose 71.3 percent while the median in the core counties increased by only 63.4 percent. The much sharper difference for blacks reflects the small numbers of black families in fringe areas who were predominantly rural rather than suburban at the beginning of the decade. This is indicated by the lower income level of black families in fringe than in core counties in 1959.

The ratio of median family income in core compared to fringe areas declined from .926 in 1959 to .883 in 1969. The drop in relative income of core to fringe residents was particularly great for blacks as the mix of black populations in the fringes changed; the ratio fell from 108.9 to 91.2. By 1969 the relative difference was almost the same as for all races.

With these changes have come a number of major developments. Among the more positive of these is the increased choice of residential location which minorities face within the central city when so much of the housing is already occupied by members of the same ethnic group. The benefit here is not simply greater choice. A variety of studies have provided evidence that blacks tend to pay more than whites for comparable housing as would be expected when segregation limits their alternatives. Secondly, during the period of continued rapid change in ethnic composition there are expanded opportunities for improvements in housing quality through a trickling down process in which poorer residents move to successively better housing as new construction sets off chains of moves. Racial segregation has historically been a significant factor preventing this filtering mechanism to fully benefit blacks. As the process of ethnic change advances and racial composition starts to stabilize with low proportions of whites, there is also no longer the stimulus to neighborhood breakdown that often has been associated with rapid ethnic change. At the same time the central cities have experienced the emergence of a very substantial black and Spanish-American middle class.

Among the factors on the negative side is the increasing concentration of poor and minorities in the central cities. While the evidence does not suggest that concentrations in ghettos on balance have important adverse aggregate effects, there is really no similar experience for the entire central cities of older American cities. Over time through selective migration the central cities may retain persons with the greatest antagonism to society because of racial and other inequalities, with bad luck, poor initiative, limited natural abilities, physical and mental health problems, alcoholism and addiction. The presence of these factors can lead to crime, disruption of schools, rapid housing deterioration, growing fire and sanitation problems, etc.

We do not really know how far such a process can go. There are now many problems of the same nature even if more limited in magnitude. These problems result in heavy demands on public finances to cover the costs of high welfare dependency and public services. But at the same time, because incomes are rising less rapidly than in the suburbs and because property values are rising less rapidly the tax base tends to grow slowest precisely where the fiscal demands are greatest.

The problems are complex. Productive capabilities continue to grow even where social conditions deteriorate rapidly. But it is difficult to get the growing suburban populations to focus attention on the problems, to provide financial support, or to bring their talents toward developing and implementing solutions. Instead of developing an overall strategy the nation has been moving toward a strategy centered around functional areas. As problems of crime, educational performance, etc., which appeared first or most obviously in the inner city have come to the fore in more affluent areas separate attacks have been mounted on each.

There is a definite rationale to dealing with the problems according to functional area. The development of a sufficient consensus is a critical element in effecting a change. Furthermore, it may well be that improvements can be most successfully implemented and recognized in geographic areas which are not confronted with the added difficulties of the central cities. But that means that the solutions may also be incomplete for the inner cities if institutions are less responsive, implementation more difficult, financing limited and multiple problems particularly prevalent.

Opening the Suburbs

There has been a great deal of interest in the question of dispersing the poor and minorities geographically. Many authors have claimed or sought to demonstrate considerable advantages for such a goal. But in fact we we know very little of what the effects would be of a policy to disperse the poor and minorities outside the central cities.

Particular attention has been given to the work of Kain who examined the black proportion of employment in work zones of Chicago and Detroit and found it to vary with the distance from the nearest large ghetto. On the basis of a theoretical formulation he adopts Kain interprets the data to imply that black employment is adversely affected by housing segregation. Literally interpreted, however, the equations simply show that where blacks work is influenced by where they live. No evidence is presented to show that blacks travel farther to work than whites. Data by occupation show no effect at all for white collar workers and only a small effect for craftsmen. The effect is greatest for the low skilled jobs for which close substitutes closer to home would be expected to be most readily available. In calculating the job loss from segregation Kain assumes that if segregation were removed the effect of distance would be eliminated. This is equivalent to assuming blacks would travel less than whites since whites take the desire to live in their present locations into account in deciding which job to take.*

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*John Kain, "Housing Segregation, Negro Employment, and Metropolitan Decentralization," Quarterly Journal of Economics, 82, No. 2 (May, 1968), pp. 175-197; and "Housing Segregation, Negro Employment, and Metropolitan Decentralization: A Retrospective View," Discussion Paper No. 81, Harvard University, Program on Regional and Urban Economics, May, 1973.

An attempt to look at differences in earnings, occupation and unemployment was made by Harrison. His data, which show little difference between central cities and suburbs, include low income "rural" blacks in the suburban group and therefore underestimate how well blacks would do if they went from central cities to suburbs. It also reflects the effects of concentration in the older suburbs and not those of a broader dispersal policy.[*]

Our analysis of occupational mobility showed no adverse effect of any of the urban structure variables. In fact, there was evidence that black males advance more readily relative to whites in blue collar and service jobs in states which rely most heavily on automobile transportation to get to work.

There has been a great deal of concern that patterns of urban growth were creating a mismatch in employment. Blue collar jobs are moving out of the central cities to the suburbs, the argument goes, and while the central cities are experiencing a growth in white collar jobs, black males are frequently unwilling to take them. As a result they fail to advance and get crowded into a shrinking blue collar sector where wages are depressed, unemployment is greater, and economic dependency more likely. Arguments for suburban open housing, circular rather than entirely radial transportation networks and industrial development programs (e.g., subsidized space) have all relied on this reasoning.

The analysis rests on the assertion that black males will not take white collar jobs. But our analysis of occupational mobility did not support this supposition. The increase in gross movement from blue collar to white collar jobs was lower for blacks than for whites when occupational mobility was generally greater. But the mobility of black males from other blue and service jobs into craftsmen jobs was also lower than the response of whites.

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[*] Bennett Harrison, Urban Economic Development: Suburbanization, Minority Opportunity, and the Condition of the Central City, Washington: The Urban Institute, 1974.

There was a tendency for gross mobility of black males to respond less to the mobility of all males in the case of movement from blue collar to white collar jobs than for movement into crafts. But this was offset by a reduced tendency for blacks to leave more desirable jobs once they obtain them. Net mobility rates which reflect both in and outmobility showed no tendency for black males to shift from blue collar to white collar jobs any less readily than the shift from other blue collar and service jobs to craftsmen jobs. This is not to say that geographic imbalances in employment and residential location do not exist but rather that they do not appear to produce racial differences in equality of opportunity.

The Coleman Report and other studies of educational performance have not produced evidence that black students do better in racially integrated schools, except perhaps where the percentage of blacks is very small.*

Many of the effects of dispersal which might be anticipated do not deal with income and related variables. If involuntary concentration of poverty and race is disadvantageous a dispersal policy could in principle reduce crime, improve recreation, etc. The utility of those whose geographic opportunities for residence and employment are limited could be increased simply by the ability to exercise greater choice. The greater freedom of choice might also reduce hostilities which have resulted from restrictions and inequities.

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*James Coleman, et. al., Equality of Educational Opportunity, Washington: U.S. Office of Education, 1966.

It may be that a dispersal policy can do none of these. There is no real evidence that it could. But to the extent that it prevented greater concentrations of poor and minorities from developing it might prevent further problems from arising that concentration in the inner cities might produce. However, even if we could be sure such benefits were possible there is little likelihood that dispersal would take place quickly enough to produce those gains. In fact, by making it easier for middle class blacks to leave the central cities a dispersal policy could exacerbate the concentration of the most disadvantaged in the central cities. Dispersal might nevertheless be desirable on equity grounds if it is done so as to enable freedom of choice. But that is not what has usually been referred to as dispersal.* Rather it is an extension of the principle of open housing to "open communities."

In practice a policy of "open communities" comes down to the issue of making housing available that persons with a wide range of incomes can afford. It does not mean any particular mix of population by income or race. In fact, as one study showed, "blacks live in integrated neighborhoods for reasons related to the quality of housing and the neighborhood, rather than because they want to socialize with whites. The degree of socializing between races was so low in 1967 that it is hardly possible to reduce it."*

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*See, for example, Anthony Downs, Urban Problems and Prospects, Chicago: Markham Publishing Company, 1970.

The most important barrier to free choice of residence comes from zoning and subdivision ordinances. Minimum lot sizes and other restrictions make it impossible to build moderately priced housing and preclude even middle income populations in many suburban communities.** Zoning restrictions have built up not only to preserve the character of communities but also to exclude persons with moderate or low incomes and ethnic minorities. There are several underlying reasons: a desire to live and send children to school with one's own social class, racial discrimination, the risk that some individuals in a group will bring social problems to the community, and a strong financial incentive to keep out lower income families when the larger number of school children per family results in an increase in local property taxes.

There have been growing efforts to replace the dependence of education on the local property tax in order to remove incentives for "fiscal zoning." It appears highly unlikely that even if educational finance were dramatically changed and/or if differences in birth rates and racial discrimination disappeared that the zoning restrictions which have already been put in place would be significantly changed. Rather, it is in the areas with the lowest population densities where suburbanization is at its earliest stages and land use patterns least well established that such changes are likely to have their impact. Even there it might become necessary to provide some kinds of assistance. An important way of reducing inequities would be to develop methods of lowering down payments on houses and condominiums. At present the use of assets as a criterion is particularly inequitable because assets are far more unequally distributed than income.

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*Norman Bradburn, Seymour Sudman and Galen Gockel, Racial Integration in American Neighborhoods, A Comparative Survey, Report No. 111-B, University of Chicago, National Opinion Research Center, 1970.

**See Mary Brooks, Exclusionary Zoning, Report No. 254, Planning Advisory Service, February 1970. Some quantitative evidence on the effects of zoning is available from an econometric model of the Boston area: Katherine Bradbury, Robert Engle, Owen Irvine and Jerome Rothenberg, "Simultaneous Estimation of the Supply and Demand for Household Location in a Multizoned Metropolitan Area," paper presented at the Annual Meetings of the Econometric Society, San Francisco, Calif., December 27-30, 1974.

Less densely populated areas require the greatest costs of building an infrastructure of facilities which need not be as fully replicated nearer to existing population centers. But they also are more open in other respects since social institutions can develop in response to the needs of the new population rather than stand opposed to change. It would be very costly if such a strategy put everyone in brand new facilities. This can be avoided, however, by a policy of gradual growth in a large number of areas which permits a mixture of ages of structures to develop over a period of time.

The courts have made significant initiatives in the direction of striking down restrictive zoning ordinances. To date they have done little in purely bedroom communities but instead have insisted that housing be made available which persons who work in a community could afford. There have been proposals for state and regional control of land use which would go much further. There is little consensus for efforts of this kind.

Even if restrictive zoning were removed, the separation of populations by income and race would continue to be strong. But instead of relying on the power of the state it would be necessary for those who wished to remain apart to pay premium prices so that builders could assemble very large tracts of land on which similarly priced houses would be built.* However, such a process would not leave large areas vacant as zoning does now. Instead they would become open for a wider range of development.

Even if these changes took place, such factors as building codes, union rules against factory-built components and the like would continue to prevent the construction of the lowest priced types of housing.** Those too are likely to be most rapidly introduced in the most developed areas. Statewide building codes have been proposed as one solution and advances in the technology of factory production have occurred since Operation Breakthrough provided initial costs of experimentation in the late 1960's. But institutional barriers to innovation continue to be strong. Freedom of choice in residential location is likely to be realized only very slowly for low income and minority populations. An "Open Communities" policy to accelerate opportunities would require concurrent efforts to change both financing and land use regulation.

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*If the cost of the land for a single family home was 10 percent of the purchase price, even if land costs doubled in the process of assembling a large tract the cost of production would rise by only 10 percent, although it might be possible to charge more if the supply of such tracts was very limited.

**See National Commission on Urban Problems, Building the American City, Washington: The Commission, December, 1968.

The Future of the Central Cities

The future development of the cities will depend on powerful forces which have been operating for a very long time. The older cities were characterized by high population densities which derived from a variety of advantages of proximity--large markets, specialized centers within those markets, access to transportation, etc. But the newest cities are instead far more "sprawling." Harrison and Kain have developed and tested a model which provides some evidence that this shift was directly attributable to the advent of the automobile. They view cities as having been built up in a kind of layering process in which the density of successive additions of physical layers is determined by the amount of automobile use at the time of development. Thus, newer cities like Los Angeles are far more spread out than older cities like Boston and New York.*

The layering model provides a valuable tool for assessing the direction and magnitude of future changes. Present automobile use is far greater than when most of the construction took place. The most recent layers appear to have adapted themselves to automobile availability without appreciably reducing the high density cores. As a result the older cities are in disequilibrium. Physical facilities come due for replacement only very slowly and are difficult to move because of their relationships to other facilities. However, we can expect that over time the older cities will move toward lower densities.

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*David Harrison and John Kain, "An Historical Model of Urban Form," Discussion Paper No. 63, Harvard University, Program on Regional and Urban Economics, September, 1970 and "Cumulative Urban Growth and Urban Density Functions," Discussion Paper No. 75, Harvard University, Program on Regional and Urban Economics, February, 1973.

The increase in energy costs since early 1973 raised the costs of low density living. Those in more spread out areas have to pay more for gasoline. Homeowners have to pay more for electricity and heat, which they use in greater quantities than in denser configurations of activity. There is no doubt about the direction of this effect: it tends to offset some of the tendency toward lower density development. But by all indications the costs of additional energy are not so exorbitant that they cannot be paid for by allocating a constant or slightly rising share of our rising incomes.* What is most significant about the increase in energy costs is that it is not nearly so powerful a determinant of urban development as the existence of the automobile. The implications of this are reinforced by the effects of the social conditions in the central cities on the desire to leave.

Recently another trend has become apparent that may have important implications for the spatial distribution of economic activity. A number of technological developments have reduced the need for businesses to locate close to each other within a metropolitan area. The most significant of these to date are the telephone and the computer. In coordination they permit brokerage firms to locate apart from each other when there is no longer a need for the physical transfer of stock certificates. They permit automatic machines in department stores to take the place of banks. They permit accounting functions to be carried out at remote locations. Technological innovation in service industries and corporate offices is occurring at an unprecedented rate and many developments which can break the ties of geography are both technologically feasible and potentially capable of widespread use.

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*For some estimates see B. Bruce-Briggs, "Gasoline Prices and the Suburban Way of Life," The Public Interest, 37 (Fall, 1974), pp. 131-136.

Furthermore, environmental and energy concerns can be expected to produce greater effort in the area of mass transportation. Extensive development of suburban bus systems, in addition to their general benefits would make it easier for suburban low and moderate income families to reach jobs and give them greater opportunity to leave the cities.

The density question has often been confused with the issue of single vs. multiple unit dwellings. Single family houses are more prevalent outside central cities. But it is quite reasonable to project moderate continued movement away from single family homes and at the same time a decline in densities. We can expect to see much more development of town houses, garden apartments and dispersed high rise apartment houses in urban fringe areas.

In the near future the patterns of living will not change substantially. In the intermediate term the spatial inequality by income and race will accentuate with rising central city problems and tensions. Over the long run we may move toward a less dense and simultaneously more equal society. We do not know how far the process will advance.

We are already beginning to face extremely complex problems of managing the central cities where the problems are concentrated. Much of the effort to deal with the problems of the central cities has been oriented to physical development, particularly housing. While the construction costs in the cities were high, the problems were real and tangible products were easy to understand and provided visible signs of achievement. It took a long time to become apparent that urban renewal programs destroyed more housing than they built and created serious problems for many relocated families. In the future a reflex response of physical solutions will be far less appropriate than ever.

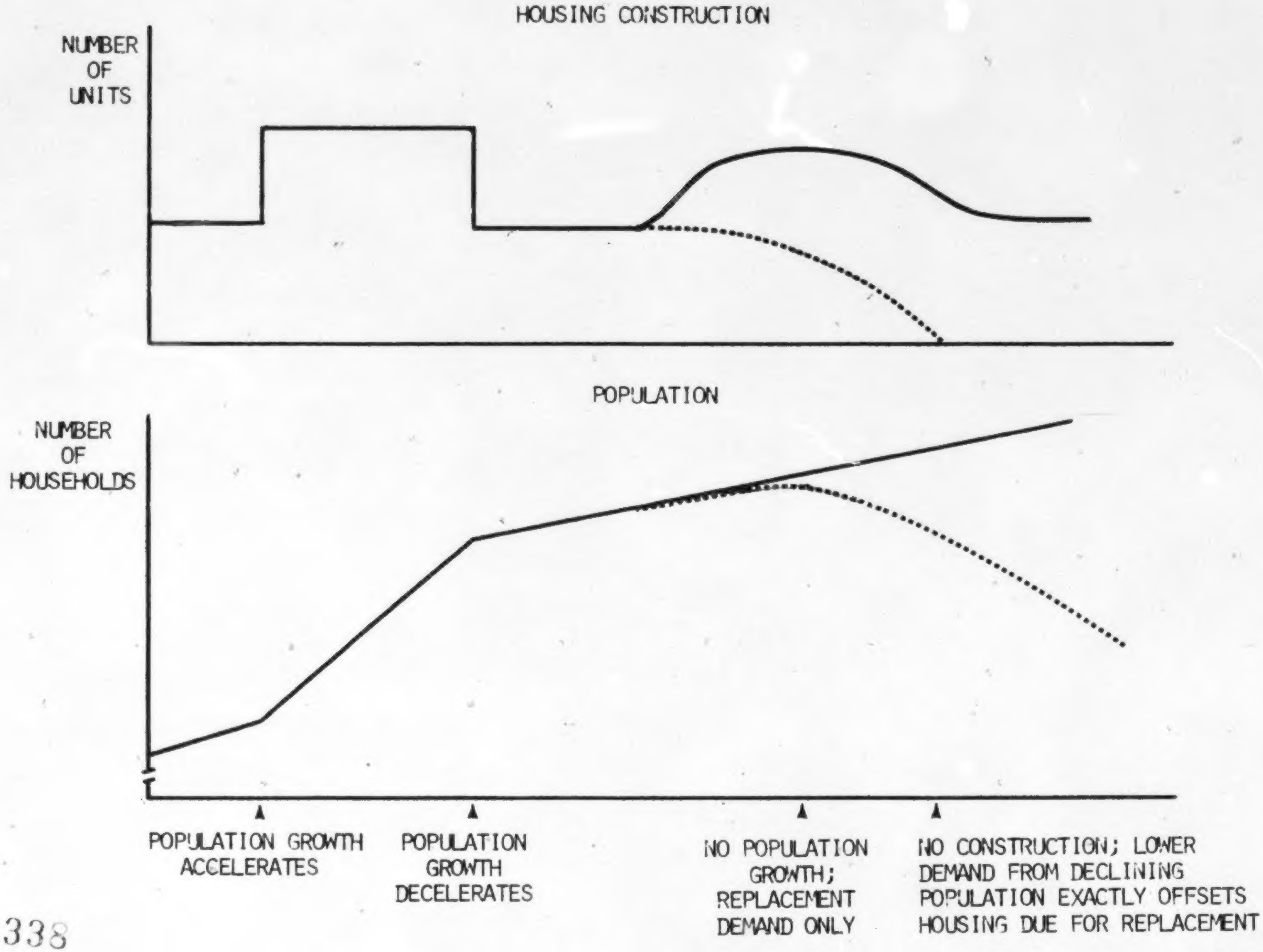
In the first three decades of this century large construction efforts took place in response to the large waves of immigration which occurred until 1925. Much of the housing of the period was hastily built under building codes that are no longer acceptable. Dwellings and infrastructure built at that time is beginning to come due for replacement on a large scale. Real incomes have risen but construction cost increases have been far more rapid than the general price level and higher incomes also create demands for more expensive replacement goods. As a result the fiscal impact of replacement would be as great as the initial construction. But population changes are rapidly changing the whole picture with regard to replacement.

The situation is illustrated in Figure 1 for the case of housing. If a fixed number of housing units is needed per person, a rise in the rate of population growth (bottom panel) as occurs at the arrow on the left results in a sharp rise in construction (upper panel) to meet the needs of expansion as well as replacement. This corresponds to the period of rapid immigration. When population growth slows construction need only meet the smaller rate of additions plus replacement. Years later, although population growth continues at the same rate, construction rises sharply until the process of replacement is completed.

The demand for replacement construction changes dramatically when population begins to decline. At the point where there is no population growth construction need only cover replacement. At the right hand arrow

FIGURE 1

ALTERNATIVE FUTURES FOR OLDER CITIES



the percentage decline in population is equal to the percentage of the stock of facilities falling due for replacement, e.g., 1 percent due for replacement each year and population falling 1 percent per year. When that occurs no construction is necessary in this simple model. In a more complex model the spatial relationships among physical facilities and their social importance might require some replacement regardless of the rate of population decline. Nevertheless, rates of decline of as little as 1 percent per year imply that most facilities need not be replaced within the central cities.

Large older cities have already begun to experience widespread declines in population. Table 2 shows the percentage changes in population between 1970 and 1973 for the principle cities of the 20 largest Standard Metropolitan Statistical Areas. Seventy percent of these showed declines. The few increases were concentrated in California and Texas. The median change in the 20 cities was a decline of 1.4 percent per year and the median change in the 14 cities which showed declines was 2.5 percent. Five cities showed declines averaging greater than 1 percent per year.

These population shifts and the forces to which we attribute them raise a number of questions. It is clear that the emphasis on capital construction will no longer be as essential as in the past. As densities decline it will be increasingly critical that whatever financial aid is given to cities be coordinated with plans to restructure both the physical infrastructure and services.

The decline in population will increase the fiscal burden if cities seek to maintain the same levels of services as before. This

TABLE 2

PERCENTAGE CHANGE IN POPULATION BETWEEN APRIL 1, 1970 AND JULY 1, 1973 FOR PRINCIPLE CITIES OF THE TWENTY LARGEST STANDARD METROPOLITAN STATISTICAL AREAS

City	Percent Change
New York	-2.3%
Chicago (Cook County)	- .4
Los Angeles	-1.4
Philadelphia	-3.5
Detroit (Wayne County)	-2.3
Boston (Middlesex County)	+1.7
San Francisco	-3.8
Washington (District of Columbia)	-1.4
Nassau (New York)	-1.1
Dallas	+1.7
St. Louis	-8.7
Pittsburgh (Allegheny County)	-2.8
Houston (Harris County)	+5.4
Baltimore	-3.8
Newark (Essex County)	+ .5
Cleveland (Cuyahoga County)	-4.5
Minneapolis	-2.8
Atlanta (Fulton County)	-1.2
Anaheim	+11.2
San Diego	+8.2

Source: U.S. Bureau of the Census, "Estimates of the Population of Metropolitan Areas, 1972 and 1973 and Components of Change Since 1970," Current Population Reports, p. 25, No. 537, December, 1974.

problem is most acute in the area of education because the decline in the absolute number of births since the early 1960s produced a cumulatively declining public elementary school enrollment in the 1970s. Even where appropriate adjustments are made the declines in population can be expected to add to the problems which the cities face.

The cities stand to benefit greatly from efforts to improve income maintenance and social insurance programs and from other kinds of financial and technical assistance. These efforts provide resources and incentives where the problems are most severe, but they can only partially deal with the complex problems of social organization. Part of the responsibility in that area rests with the cities and their residents to develop responsive institutions and take strong action to improve the efficiency of service delivery systems.